



Addendum to the Combined Report

Rohm and Haas Chemicals LLC
Philadelphia Plant
5000 Richmond Street
Philadelphia, Pennsylvania 19137

eFACTS Client ID 172919

Prepared for:
Dow Environmental Remediation and Restoration
310 George Patterson Boulevard, Suite 100
Bristol, Pennsylvania 19007

Prepared by:
AECOM
Suite E100
625 West Ridge Pike
Conshohocken, PA 19428

Project No.: 60533397

Date: January 2018

Table of Contents

1.0	Introduction.....	1
2.0	Site History and Operations.....	2
2.1	Thickness of Cover	2
2.2	Coordinates of Area Boundaries	2
2.3	Boring Logs.....	2
2.4	Topographic Survey Map	3
3.0	Potential Off-Site Pathways	4
3.1	Historic Fill	4
3.2	Potential Off-Site Vapor Exposure.....	4
4.0	On-Site Vapor Intrusion Pathway	5
5.0	Miscellaneous Items.....	7
5.1	Crushed Brick and Concrete	7
6.0	Other Constituents	9
7.0	Cleanup Plan.....	10
8.0	References	11

List of Tables

Table 1	Latitude and Longitude Coordinates of Site Areas
Table 2	Building 13 Indoor and Ambient Air Results
Table 3	Building 13 Soil Sample Results Compared to Soil Vapor Intrusion Screening Values
Table 4	Building 13 VISL Calculator Output
Table 5	Summary of Crushed Concrete and Brick Samples
Table 6	Summary of Crushed Concrete and Brick Samples - SPLP Results
Table 18	Former West Production Area: Soil Gas Analytical Results - Rounds 1 and 2

List of Figures

Figure 1	East Area 1 Boundary
Figure 2	East Area 2A Boundary
Figure 3	East Area 2B, East Area 2C, and WPA Boundary
Figure 4	Ground Survey Contour Map
Figure 5	Crushed Brick and Concrete Fill Areas

Figure 25 Soil Gas Results Compared to Non-Residential Sub-Slab/Near-Source
Soil Gas Site-Specific Standard Vapor Intrusion Screening Values

List of Appendices

- Appendix A Vapor Mitigation System in 4929 Salmon Street Residence
Appendix B CD Containing Electronic Files

1.0 Introduction

On behalf of Rohm and Haas Chemicals LLC (Rohm and Haas)¹, a wholly-owned subsidiary of The Dow Chemical Company (Dow)², AECOM (formerly URS Corporation) has prepared this *Addendum to the Combined Report* (Addendum) to supplement the Combined Remedial Investigation Report (RIR), Site Specific Human Health Risk Assessment Report for East Area 2A (HHRA), Site Specific Terrestrial Ecological Risk Assessment Report (ERA), and Combined Report for unsaturated soil in portions of the Rohm and Haas Philadelphia Plant (Plant) submitted to the Pennsylvania Department of Environmental Protection (PADEP) on October 24, 2017, pursuant to the Pennsylvania Land Recycling and Environmental Remediation Standards Act (Act 2). Collectively, the reports submitted on October 24, 2017 are referred to as the "Combined Report."

This Addendum includes additional information requested by PADEP to complete its final review of the Combined Report, as discussed with Rohm and Haas on December 15, 2017 and confirmed by an email dated December 18, 2017. The additional information presented supports the conclusion set forth in the Combined Report that attainment of Act 2 remediation standards for unsaturated soils at the Site have been demonstrated as follows:

- East Area 2A – Site Specific Standards for a future recreational use.
- East Areas 2B, 2C and Former West Production Area – A combination of Statewide Health Standards and Site Specific Standards for a future non-residential use.

Accordingly, Rohm and Haas requests approval of the Combined Final Report as supplemented by this Addendum and Act 2 liability protection for unsaturated soils in East Area 2 and the Former West Production Area.

¹ The Dow Chemical Company acquired Rohm and Haas on April 1, 2009.

² Dow is a wholly-owned subsidiary of DowDuPont Inc.

2.0 Site History and Operations

To supplement the information presented in the Combined Report, this section presents additional information.

2.1 Thickness of Cover

Figure 5 in Appendix A (RIR) of the Combined Report shows the thicknesses of fill materials that have been encountered in various soil borings collected throughout the Site. This figure was assembled to provide a generalized depiction of fill thicknesses as requested by PADEP. It is noted that the fill materials depicted on the figure may exist within the water table and may also include fill that has been identified as impacted. PADEP has requested a figure describing the thickness of “clean” cover materials present at the Site. Given the variability of the thickness of such cover materials encountered at any given boring location and the inconsistencies of the vertical precision presented at any particular location, we feel that it would not be prudent to provide a figure that a future owner would rely upon to determine the thickness of such materials. Instead, we have provided a discussion in the environmental covenant that describes that any disturbance of greater than 6 inches should be treated as though it was a breach of the clean cover materials (whether those materials are concrete, asphalt, stone, or soil). We believe that this approach provides a greater degree of certainty than reliance on a generalized cover material figure and provides a greater degree of safety for future site owners and occupants.

2.2 Coordinates of Area Boundaries

Due to their unique activity and use limitations, Rohm and Haas has prepared three figures showing the boundaries and corner coordinates for East Area 1 (see Figure 1), East Area 2A (see Figure 2), and the rest of the Site (East Area 2B, and East Area 2C, and the WPA) (see Figure 3). Table 1 contains a cumulative total of the latitude and longitude coordinates for each of the corners depicted in Figures 1 through 3. In addition, an electronic file has been provided containing the boundary corner designations and coordinates of the three areas to facilitate field locations as requested by U.S. Environmental Protection Agency (EPA).

2.3 Boring Logs

Soil borings SB-444 through SB-493 were drilled as part of the site-wide supplemental polychlorinated biphenyl (PCB) investigations of 2014 and 2015. Borings SB-454 through SB-467 were drilled in East Area 1, so those logs would not be included in this report. In 2015, soil borings SB-479 through SB-493 were drilled into the railroad ballast to a depth of only 2 feet, so boring logs were not generated. At this time, we cannot locate the field logbooks that contain the field notes and soil descriptions for the borings drilled in 2014 as we suspect they were misplaced during the AECOM office move, which occurred shortly after the field investigation. We will continue to look for these field notes and submit them to the agencies once found.

2.4 Topographic Survey Map

The most current ground survey contour map is provided as Figure 4. The aerial survey was conducted on August 7, 2012 following the demolition of the buildings, placement of the crushed concrete and brick, and paving of these areas. An electronic file containing these contours is provided in Appendix B.

3.0 Potential Off-Site Pathways

3.1 Historic Fill

The Combined Report documents the presence of historic fill material that was characterized throughout the Site by the detection of arsenic, vanadium, mercury, and benzo(a)pyrene. These compounds are not related to manufacturing activities at the Site and their presence at the Site is attributable solely to historic fill. Act 2 standards have been met in each area of the Site either through the attainment of non-residential Statewide Health Standards (including the compounds associated with historic fill) or Site Specific Standards, where constituents associated with historic fill were determined to be present at levels that either were taken into account in the site-specific risk assessments or were evaluated as part of the pathway elimination attainment demonstration.

As requested by PADEP, Rohm and Haas has determined not to seek Act 2 liability protection for these historic fill related compounds. Nevertheless, the data collected by Rohm and Haas that were used to characterize soils at the Site where these compounds were detected are used in the Act 2 attainment demonstrations for the Site.

3.2 Potential Off-Site Vapor Exposure

Rohm and Haas has reviewed the soil vapor data from the sample locations located along the property boundary, including VP-41. The Combined Report indicates that the data show slight exceedances of the 1/10 Non-Residential Sub-Slab Soil Gas Statewide Health Standard Vapor Intrusion Screening Values for 1,2-dichloroethane and ethylbenzene in VP-41 and trichloroethene in VP-40. Revised RIR Table 18 and Figure 25 are provided for reference. In addition to this analysis, this addendum confirms that the residence located across Brill Street at 4929 Salmon Street from these two vapor points is equipped with a vapor mitigation system consisting of two vent pipes, manometer, and blower (see Appendix A). The system was installed by Rohm and Hass in 1995 and recently inspected and upgraded in May 2017. Maintenance of the vapor mitigation system at this residence is a commitment that is included in the Act 2 Post-Remediation Care Plan.

4.0 On-Site Vapor Intrusion Pathway

The Combined Report describes the on-site vapor intrusion pathway evaluation for Building 13, the only building present at the Site. As discussed in the report, potential vapor intrusion sources identified in the vicinity of Building 13 were limited to one constituent (benzene). No other constituents were detected in soil borings located nearest to the building above one-tenth of the PADEP soil statewide health standard vapor intrusion screening values for non-residential land use (SVSOIL).

The collection of paired sub-slab soil gas and indoor air samples were planned to further evaluate the benzene exceedance. However, due to the shallow depth of groundwater in the vicinity of the Building 13 basement slab, sub-slab soil gas samples could not be collected. Therefore, two rounds of indoor air samples were collected from the basement and on the first floor (in August 2017 and October 2017).

As detailed in Table 2, benzene was detected in the indoor air samples (and outdoor ambient air samples), but not at concentrations in excess of one-tenth of the PADEP indoor air statewide health standard vapor intrusion screening values for non-residential land use (SVIA). Only one constituent (chloroform) was detected in both indoor air sample locations above one-tenth the SVIA. Even though a potential vapor intrusion source for chloroform was not identified in soil (or groundwater), further evaluation of this exceedance was conducted using EPA's Vapor Intrusion Screening level (VISL) calculator. As concluded in the Combined Report, the risk assessment did not identify unacceptable risk. The calculated risk and non-cancer health hazard was less than Act 2 thresholds, i.e., the cumulative excess risk for known or suspected carcinogens may not be greater than one in ten thousand (10^{-4}) and the hazard index (HI) may not exceed one for systemic toxicants (25 Pa. Code § 250.402). Therefore, no further vapor intrusion analysis was considered necessary for Building 13.

However, PADEP requested the collection of additional indoor air data to 1) provide a data point during the winter heating season and 2) address reporting limits observed during the prior sampling events above the indoor air screening values (SVIA). As a result, an additional indoor air sampling event was completed in December 2017. To address the detection limit issue, the analytical laboratory reported to the method detection limit (MDL).

Results of the three rounds of indoor air sampling are provided in Table 2. As shown in the table, benzene was again detected in the indoor air samples at a concentration of 1.0 micrometers per cubic meter ($\mu\text{g}/\text{m}^3$) but was less than 1/10 the SVIA ($1.6 \mu\text{g}/\text{m}^3$). Chloroform was not detected during the sampling round. However, the detection limit ($0.98 \mu\text{g}/\text{m}^3$) was above one-tenth the SVIA ($0.53 \mu\text{g}/\text{m}^3$).

In addition to chloroform, the following 12 constituents also had detection limits during the third round above 1/10 the SVIA:

- 1,1,2,2-Tetrachloroethane
- 1,1,2-Trichloroethane
- 1,2,3-Trichloropropane
- 1,2-Dibromoethane
- 1,2-Dichloroethane
- 1,3-Butadiene
- 1,4-Dichlorobenzene
- 3-Chloropropene (allyl chloride)
- Bromodichloromethane
- Dibromochloromethane
- Hexachloroethane
- Trichloroethene

Three of these constituents (1,3-butadiene, 1,2,3-trichloropropane, and 3-chloropropene) are not associated with historical site manufacturing operations; as a result, they have not been analyzed in Site soil, groundwater, or soil vapor. Therefore, these constituents were not retained for further evaluation as vapor intrusion constituents of concern (COCs), and Rohm and Haas has determined not to seek Act 2 liability protection for these three constituents.

As outlined in PADEP's Land Recycling Program Technical Guidance Manual for Vapor Intrusion into Buildings from Groundwater and Soil under Act 2, for the vapor intrusion exposure pathway to exist there must be a source of volatile substances in the unsaturated zone soil or groundwater at the water table, an inhabited building, and a transport pathway from the source to the building. As a result, former WPA soil and groundwater data in the vicinity of Building 13 were reviewed to determine if potential vapor intrusion sources are present. Potential vapor intrusion subsurface sources were not identified for the following six constituents: 1,1,2,2-tetrachloroethane, 1,1,2-trichloroethane, 1,2-dibromoethane, bromodichloromethane, dibromochloromethane, and hexachloroethane. They have not been detected in soil (see Table 3)³ or groundwater⁴ in the vicinity of Building 13. In addition, they have not been detected in soil vapor⁵, a transport medium, in the vicinity of Building 13. Therefore, they were also not retained as vapor intrusion COCs.

Of the remaining three constituents (1,2-dichloroethane, 1,4-dichlorobenzene, and trichloroethene), one constituent (1,4-dichlorobenzene) has been detected in soil above 1/10 of the PADEP soil statewide health standard vapor intrusion screening values for non-residential land use (SVSOIL) (see boring SB-334 in Table 3). The other two constituents have been detected in area groundwater (1,2-dichloroethane) or soil vapor (1,2-dichloroethane and trichloroethene). Therefore, these three constituents were retained as vapor intrusion COCs.

Consequently, based on an evaluation of the vapor intrusion conceptual site model, the following detected and non-detected constituents were conservatively identified as COCs for further quantitative evaluation: benzene, chloroform, 1,2-dichloroethane, 1,4-dichlorobenzene, and trichloroethene. Similar to the prior evaluation, EPA's VISL calculator was used to estimate the potential risk for the indoor air inhalation pathway under current non-residential land use. EPA-recommended exposure assumptions for commercial/industrial land use and toxicity factors were used in the calculator along with December 2017 sample results. Calculator outputs are provided in Table 4.

As detailed in the table, the estimated potential cancer risk was 6×10^{-6} and the HI was less than 1. Because vapor intrusion is the only potentially complete exposure pathway for on-site workers, the calculated risk was less than Act 2 thresholds (cumulative risk less than 1×10^{-5} and HI less than 1). Therefore, consistent with the recommendation provided in the Combined Report, no further vapor intrusion analysis is necessary for Building 13.

³ Locations SB-294, SB-319, SB-320, and SB-290 are within 100 feet of Building 13. Location SB-334 is approximately 125 feet from the building but was conservatively included in the evaluation to provide data from all four sides (N, S, E, and W).

⁴ Locations P-8, TW-1S, TW-30S, MW-4, and MW-5 will be provided in the forthcoming Site-Wide Act 2 groundwater RI report.

⁵ See locations VP-31, VP-32, VP-34, and VP-37 in Appendix A (RIR) Table 18. Note that elevated detection limits are present in VP-37 due to the presence of ethylbenzene and xylenes.

5.0 Miscellaneous Items

This section presents more details on the beneficial reuse of crushed brick and concrete used as fill at the Site.

5.1 Crushed Brick and Concrete

Various buildings have been demolished as part of the redevelopment and ultimate closure of the Philadelphia Plant. Demolition debris in the form of wood, metal, drywall, plastic and asbestos, when encountered, has been properly segregated and sent for off-site disposal. Crushed brick and concrete from demolition activities have been beneficially used to fill former building basements and bring certain low areas of the Site up to grade. The general area and time period where crushed brick and concrete have been placed are indicated on Figure 5..

URS Corporation (now AECOM) conducted sampling of materials generated from the demolition of several buildings at the Rohm and Haas Philadelphia Plant between 2006 and 2008. The areas and associated demolished buildings are found on Figure 3 of Appendix A (RIR):

- Ion Exchange Resins/Machine Shop/Tritons Manufacturing (Buildings 9, 80, 17, 6A, 6B, 6F, 86, 24, and 30)
- Ion Exchange Resins/Multi Products Area (Buildings R11 and R12)
- Precious Metals Recovery/Multi Products Area (Buildings R6 and R10)
- Research Lab/Admin Area (Buildings 60 and 70)

In sampling the material, URS estimated volumes and collected samples consistent with PADEP's Management of Fill guidance document (PADEP # 258-2182-773, April 24, 2004). Forty-six discrete and composite samples were collected from stockpiled crushed concrete and brick. The samples were submitted to TestAmerica Laboratories of Edison, New Jersey for the analysis of Target Compound List (TCL) volatile organic compounds (VOCs), Priority Pollutant (PP) metals, mercury, free cyanide, PP pesticides and PCBs, TCL herbicides, TCL semi-volatile organic compounds (SVOCs).

The concrete debris was determined to have concentrations of various organic and inorganic constituents as presented in Table 5. The results were compared against the 2004 Pennsylvania Clean Fill Standards (Tables FP-1a and FP-1b) and the Regulated Fill Standards (Tables GP-1a and GP-1b) as well as the Non-Residential Direct-Contact (0 to 2 feet below ground surface) Act 2 Standard. Of the 46 samples, tetrachloroethene (one result), benzo(a)pyrene (one result), alpha benzene hexachloride (BHC) (six results), gamma BHC (one result), 4,4'-dichlorodiphenyl dichloroethane (DDD) (one result), 4,4'-dichlorodiphenyl dichloroethylene (DDE) (two results), and lead (one result) were the only constituents detected above the Clean Fill Standard or above both the Clean Fill Standard and the Regulated Fill Standard. There were no exceedances of the Non-residential Direct Contact (0 to 2 feet bgs) standard.

For those constituents where Clean Fill limits were not achieved, URS collected samples for analysis via the Synthetic Precipitation Leaching Procedure (SPLP) per Technical Guidance Manual, 253-0300-100/May 4, 2002 to evaluate if the concentration of those regulated substances could potentially produce a leachate that exceeds the PADEP Act 2 non-used, non-residential aquifer groundwater Medium Specific Criteria (MSC). A

Non-Use Aquifer Determination for the former East Production Area (East Area 1) was submitted on December 3, 2008 and approved by PADEP on February 27, 2009. The SPLP results are presented in Table 6.

The SPLP results were either reported as not detected or less than the non-used, non-residential aquifer MSCs. Therefore, the concrete debris materials should not produce leachate at a concentration that would adversely impact groundwater above the pre-existing groundwater concentrations.

Based upon the results of the sampling, the crushed brick and concrete was beneficially reused on-site. As shown in Figure 5, the majority of the materials generated during the 2005 to 2009 timeframe were used in East Area 1. In all areas where the materials were placed, except for approximately 1 acre along Frankford Inlet, additional cover materials that serve as the remedy for the Site were placed over the crushed brick and concrete to eliminate the direct contact pathway even though none of the results from the sampling exceeded any non-residential direct contact MSCs.

6.0 Other Constituents

Approximately 47.8 acres, representing 97 percent of the Site, meet a Site Specific Standard predicated on pathway elimination that was confirmed, where necessary, by a human health risk assessment and an ecological risk assessment. The Site Specific Standard will be maintained in the future through a detailed Post Remediation Care Plan included in the Combined Report and an Environmental Covenant. Approximately 1.5 acres in the Former West Production Area meet a Non-Residential Statewide Health Standard. This area is located in the far corner of the Site bordered by Bridge Street and the Frankford Inlet, a considerable distance from any of the operational areas of the Site.

Within the unpaved 1.5-acres, there are no open areas where a receptor may come into contact with underlying soil. As documented in Figure 5, between approximately 1 to 4 feet of crushed brick and concrete were placed in 2011 over an approximate 0.65 acres. The crushed brick and concrete are of similar composition and origin as that discussed in the Crushed Brick and Concrete Section above, where no exceedances of the Statewide Health Standard were observed. Furthermore, the physical characteristics of the crushed brick and concrete render it a suitable cover material as it would not be considered an environmental media for exposure. The physical size of the crushed brick and concrete is greater than what would be available for ingestion or inhalation (which is in the micrometer range) and its characteristics would not adhere to the skin (adherence decreases with increasing particle size). A maintained grass cover is present over the remaining 0.88-acre portion. A vegetative cover is also an effective and suitable control to prevent direct contact with underlying soil. In addition, the Site is subject to the Activity and Use Limitations specified in the Post Remediation Care Plan, which would prohibit disturbance of the cover materials.

7.0 Cleanup Plan

A Cleanup Plan for the Site was prepared in accordance with § 250.410 Cleanup Plan and is provided as a separate document. The plan evaluated several remedial options to achieve the Site Specific Standard and manage current and future exposure associated with unsaturated zone soils. Based on the evaluation, an asphalt and soil cover was selected as the engineered control and a covenant as the institutional control.

8.0 References

AECOM. 2018. *Act 2 Cleanup Plan East Area 2 and Former West Production Area.* January 8, 2018

AECOM. 2017. *Combined Act 2 Remedial Investigation Report, Site Specific Human Health Risk Assessment Report for East Area 2A, Site Specific Terrestrial Ecological Risk Assessment Report, and Final Report for Soil.* AECOM, Revision 2: October 2017.

PADEP. 2017. *Land Recycling Program Technical Guidance Manual for Vapor Intrusion into Buildings from Groundwater and Soil under Act 2.* PADEP. January 18, 2017.

PADEP. 2002. *Land Recycling Program Technical Guidance Manual,* June 8, 2002.

Tables

Table 1
Latitude and Longitude Coordinates of Site Areas
Addendum to the Combined Report
Rohm and Haas Chemicals LLC Philadelphia Plant

Area	Identifier	Latitude	Longitude
East Area 1			
	A1-01	40.002307	-75.0624195
	A1-02/A3-70	40.0033548	-75.0642419
	A1-03/A3-69	40.0045242	-75.0630971
	A1-04/A3-68	40.004263	-75.0626459
	A1-05/A3-67	40.0046731	-75.0622424
	A1-06/A3-66	40.0038066	-75.0607113
	A1-07/A3-65	40.0031203	-75.061368
	A1-08/A3-64	40.0027102	-75.0606435
	A1-09/A3-63	40.0017772	-75.0614982
	A1-10	40.0021064	-75.0620707
	A1-11	40.0019284	-75.0622439
	A1-12	40.0021289	-75.0625927
East Area 2A			
	A2-01/A3-62	40.0017319	-75.0614193
	A2-02/A3-61	40.0049846	-75.0584508
	A2-03	40.0049767	-75.0584357
	A2-04	40.0049573	-75.0584514
	A2-05	40.0048138	-75.0582575
	A2-06	40.0047558	-75.0583062
	A2-07	40.004589	-75.0579758
	A2-08	40.004489	-75.0579589
	A2-09	40.0043304	-75.0579852
	A2-10	40.0040794	-75.0581814
	A2-11	40.0039931	-75.0582887
	A2-12	40.0037681	-75.0584871
	A2-13	40.0036625	-75.0586663
	A2-14	40.0035929	-75.0587125
	A2-15	40.0035275	-75.0588338
	A2-16	40.0034353	-75.0589706
	A2-17	40.0033375	-75.0590095
	A2-18	40.0033054	-75.0591742
	A2-19	40.0034245	-75.059467
	A2-20	40.0034227	-75.0595838
	A2-21	40.0033609	-75.0596271
	A2-22	40.003293	-75.0596006
	A2-23	40.0031415	-75.0594549
	A2-24	40.0031247	-75.0595022
	A2-25	40.0031639	-75.0596466
	A2-26	40.0031612	-75.0597225
	A2-27	40.003112	-75.0597303
	A2-28	40.0029566	-75.0594155
	A2-29	40.0028469	-75.0592513
	A2-30	40.0027514	-75.0592045

Table 1
Latitude and Longitude Coordinates of Site Areas
Addendum to the Combined Report
Rohm and Haas Chemicals LLC Philadelphia Plant

Area	Identifier	Latitude	Longitude
East Area 2A continued			
	A2-31	40.0025681	-75.0592385
	A2-32	40.0025249	-75.0592162
	A2-33	40.0021582	-75.0593204
	A2-34	40.001894	-75.0593501
	A2-35	40.0017403	-75.0595387
	A2-36	40.0016279	-75.059831
	A2-37	40.0015811	-75.0600256
	A2-38	40.0015319	-75.0600788
	A2-39	40.0015404	-75.0601921
	A2-40	40.0014319	-75.060313
	A2-41	40.0013722	-75.0604809
	A2-42	40.0012749	-75.0606245
Remaining Areas (East Area 2B, East Area 2C and WPA)			
	A3-01	40.0034285	-75.0657293
	A3-02	40.0039599	-75.0666536
	A3-03	40.0045402	-75.0672192
	A3-04	40.0050323	-75.0674583
	A3-05	40.0051414	-75.0675051
	A3-06	40.0051661	-75.0674367
	A3-07	40.0051923	-75.0674433
	A3-08	40.0052339	-75.0672666
	A3-09	40.0052998	-75.0671192
	A3-10	40.0053111	-75.0670691
	A3-11	40.0053721	-75.0669072
	A3-12	40.0054219	-75.0667767
	A3-13	40.0054502	-75.0667073
	A3-14	40.0054729	-75.0666141
	A3-15	40.0055048	-75.0665407
	A3-16	40.0055254	-75.0664919
	A3-17	40.0055634	-75.0663569
	A3-18	40.0055713	-75.0663377
	A3-19	40.0055753	-75.066327
	A3-20	40.005629	-75.0662094
	A3-21	40.0056672	-75.0661089
	A3-22	40.0057147	-75.065986
	A3-23	40.0057589	-75.0658803
	A3-24	40.0057945	-75.0658132
	A3-25	40.0058512	-75.0655794
	A3-26	40.0058641	-75.0654896
	A3-27	40.0058663	-75.0654359
	A3-28	40.0058589	-75.0654009
	A3-29	40.0058891	-75.0652079
	A3-30	40.0058902	-75.0651223

Table 1
Latitude and Longitude Coordinates of Site Areas
Addendum to the Combined Report
Rohm and Haas Chemicals LLC Philadelphia Plant

Area	Identifier	Latitude	Longitude
Remaining Areas (East Area 2B, East Area 2C and WPA) continued			
	A3-31	40.0058845	-75.0649304
	A3-32	40.0058781	-75.0648466
	A3-33	40.005889	-75.0647616
	A3-34	40.0058791	-75.0646639
	A3-35	40.0058902	-75.0645938
	A3-36	40.0058747	-75.0644821
	A3-37	40.0058737	-75.0644311
	A3-38	40.0058517	-75.0643566
	A3-39	40.0058517	-75.0640569
	A3-40	40.0058568	-75.0636594
	A3-41	40.0058488	-75.0635321
	A3-42	40.0058461	-75.0634955
	A3-43	40.0058545	-75.0634784
	A3-44	40.0058704	-75.0632155
	A3-45	40.005862	-75.0631348
	A3-46	40.0058488	-75.0630861
	A3-47	40.0058377	-75.0630739
	A3-48	40.0058488	-75.0630398
	A3-49	40.0058577	-75.0630125
	A3-50	40.0058629	-75.062993
	A3-51	40.0058692	-75.0629817
	A3-52	40.0058678	-75.0629661
	A3-53	40.0060094	-75.0624858
	A3-54	40.0061425	-75.0623279
	A3-55	40.0064409	-75.0619155
	A3-56	40.0065071	-75.061652
	A3-57	40.0064113	-75.061217
	A3-58	40.005644	-75.0596968
	A3-59	40.0050449	-75.0585515
	A3-60	40.0049934	-75.0584676
	A2-02/A3-61	40.0049846	-75.0584508
	A2-01/A3-62	40.0017319	-75.0614193
	A1-09/A3-63	40.0017772	-75.0614982
	A1-08/A3-64	40.0027102	-75.0606435
	A1-07/A3-65	40.0031203	-75.061368
	A1-06/A3-66	40.0038066	-75.0607113
	A1-05/A3-67	40.0046731	-75.0622424
	A1-04/A3-68	40.004263	-75.0626459
	A1-03/A3-69	40.0045242	-75.0630971
	A1-02/A3-70	40.0033548	-75.0642419
	A3-71	40.0039298	-75.065242

Table 2
Building 13 Indoor and Ambient Air Results
Addendum to the Combined Report
Rohm and Haas Chemicals, LLC Philadelphia Plant

Analyte	Cas Number	1/10th Non-Residential Indoor Air VI Screening Value ($\mu\text{g}/\text{m}^3$)	9165028 IA-2-081717 1st Floor		9248178 IA-2-100417 1st Floor		9382454 IA2-122017 1st Floor		9165029 IA-1-081717 Basement		9248177 IA-1-100417 Basement		9382453 IA1-122017 Basement		9165030 AMB-1-081717 Rear Outdoor		9248179 AMB-100417 Rear Outdoor		9382455 AMB-122017 Rear Outdoor								
			Result	LOQ	Result	LOQ	Result	MDL	Result	LOQ	Result	LOQ	Result	MDL	Result	LOQ	Result	LOQ	Result	MDL							
Acetone	67-64-1	14000	140	4.8	200	48	730	12	70	4.8	19	4.8	87	1.2	28	4.8	20	4.8	72	1.2							
Benzene	71-43-2	1.6	1.5	J	3.2	1.6	J	3.2	1.0	J	0.64	1.6	J	3.2	1.2	J	3.2	1.1	J	3.2	1.0	J	0.64				
Bromobenzene	108-86-1	NS	6.4	U	6.4	6.4	U	6.4	1.3	U	1.3	6.4	U	6.4	6.4	U	6.4	1.3	U	1.3	6.4	U	6.4	1.3	U	1.3	
Bromodichloromethane	75-27-4	0.33	6.7	U	6.7	6.7	U	6.7	1.3	U	1.3	6.7	U	6.7	6.7	U	6.7	1.3	U	1.3	6.7	U	6.7	6.7	U	6.7	
Bromoform	75-25-2	11	10	U	10	10	U	10	2.1	U	2.1	10	U	10	10	U	10	2.1	U	2.1	10	U	10	10	U	10	
Bromomethane	74-83-9	2.2	3.9	U	3.9	3.9	U	3.9	0.78	U	0.78	3.9	U	3.9	3.9	U	3.9	0.78	U	0.78	3.9	U	3.9	3.9	U	3.9	
1,3-Butadiene	106-99-0	0.41	4.4	U	4.4	4.4	U	4.4	0.88	U	0.88	4.4	U	4.4	4.4	U	4.4	0.88	U	0.88	4.4	U	4.4	4.4	U	4.4	
2-Butanone	78-93-3	2200	3.9	J	5.9	3.7	J	5.9	3.7	J	1.5	3.7	J	5.9	3.3	J	5.9	3.0	J	1.5	3.3	J	5.9	6.9	U	5.9	
Carbon Disulfide	75-15-0	310	3.1	U	3.1	3.1	U	3.1	1.6	U	1.6	3.1	U	3.1	3.1	U	3.1	1.6	U	1.6	3.1	U	3.1	3.1	U	3.1	
Carbon Tetrachloride	56-23-5	2	6.3	U	6.3	6.3	U	6.3	1.3	U	1.3	6.3	U	6.3	6.3	U	6.3	1.3	U	1.3	6.3	U	6.3	6.3	U	6.3	
Chlorobenzene	108-90-7	22	4.6	U	4.6	4.6	U	4.6	0.92	U	0.92	4.6	U	4.6	4.6	U	4.6	0.92	U	0.92	4.6	U	4.6	4.6	U	4.6	
Chlorodifluoromethane	75-45-6	22000	3.5	U	3.5	3.5	U	3.5	0.71	U	0.71	3.5	U	3.5	1.1	J	3.5	0.71	U	0.71	3.5	U	3.5	3.5	U	3.5	
Chloroethane	75-00-3	4400	2.6	U	2.6	2.6	U	2.6	0.53	U	0.53	2.6	U	2.6	2.6	U	2.6	0.53	U	0.53	2.6	U	2.6	2.6	U	2.6	
Chloroform	67-66-3	0.53	0.99	J	4.9	4.9	U	4.9	0.98	U	0.98	6.2	4.9	1.3	J	4.9	0.98	U	0.98	4.9	U	4.9	4.9	U	4.9		
Chloromethane	74-87-3	6.8	2.1	U	2.1	2.1	U	2.1	0.41	U	0.41	2.1	U	2.1	2.1	U	2.1	0.41	U	0.41	2.1	U	2.1	2.1	U	2.1	
3-Chloropropene	107-05-1	0.44	3.1	U	3.1	3.1	U	3.1	0.63	U	0.63	3.1	U	3.1	3.1	U	3.1	0.63	U	0.63	3.1	U	3.1	3.1	U	3.1	
Cumene	98-82-8	180	6.8	4.9	1.9	J	4.9	12	0.98		0.98	5.2	4.9	1.4	J	4.9	12	0.98		2.8	J	4.9	4.9	U	4.9		
Dibromochloromethane	124-48-1	0.45	8.5	U	8.5	8.5	U	8.5	1.7	U	1.7	8.5	U	8.5	8.5	U	8.5	1.7	U	1.7	8.5	U	8.5	8.5	U	8.5	
1,2-Dibromoethane	106-93-4	0.02	7.7	U	7.7	7.7	U	7.7	1.5	U	1.5	7.7	U	7.7	7.7	U	7.7	1.5	U	1.5	7.7	U	7.7	7.7	U	7.7	
Dibromomethane	74-95-3	1.8	7.1	U	7.1	7.1	U	7.1	1.4	U	1.4	7.1	U	7.1	7.1	U	7.1	1.4	U	1.4	7.1	U	7.1	7.1	U	7.1	
1,2-Dichlorobenzene	95-50-1	88	6.0	U	6	6.0	U	6	1.2	U	1.2	6.0	U	6	6.0	U	6	1.2	U	1.2	6.0	U	6	6.0	U	6	
1,3-Dichlorobenzene	541-73-1	NS	6.0	U	6	6.0	U	6	1.2	U	1.2	6.0	U	6	6.0	U	6	1.2	U	1.2	6.0	U	6	6.0	U	6	
1,4-Dichlorobenzene	106-46-7	1.1	6.0	U	6	6.0	U	6	1.2	U	1.2	6.0	U	6	6.0	U	6	1.2	U	1.2	6.0	U	6	6.0	U	6	
Dichlorodifluoromethane	75-71-8	44	22	4.9	12	4.9	6.7	0.99		6.7	4.9	3.0	J	4.9	3.0	J	0.99		3.1	J	4.9	3.2	J	4.9	3.0	J	0.99
1,1-Dichloroethane	75-34-3	7.7	4.0	U	4	4.0	U	4	0.81	U	0.81	4.0	U	4	4.0	U	4	0.81	U	0.81	4.0	U	4	4.0	U	4	
1,2-Dichloroethane	107-06-2	0.47	4.0	U	4	4.0	U	4	0.81	U	0.81	4.0	U	4	4.0	U	4	0.81	U	0.81	4.0	U	4	4.0	U	4	
1,1-Dichloroethene	75-35-4	88	4.0	U	4	4.0	U	4	0.79	U	0.79	4.0	U	4	4.0	U	4	0.79	U	0.79	4.0	U	4	4.0	U	4	
cis-1,2-Dichloroethene	156-59-2	NS	4.0	U	4	4.0	U	4	0.79	U	0.79	4.0	U	4	4.0	U	4	0.79	U	0.79	4.0	U	4	4.0	U	4	
trans-1,2-Dichloroethene	156-60-5	26	4.0	U	4	4.0	U	4	0.79	U	0.79	4.0	U	4	4.0	U	4	0.79	U	0.79	4.0	U	4	4.0	U	4	
Dichlorofluoromethane	75-43-4	NS	4.2	U	4.2	4.2	U	4.2	0.84	U	0.84	4.2	U	4.2	4.2	U	4.2	0.84	U	0.84	4.2	U	4.2	4.2	U	4.2	
1,2-Dichloropropane</td																											

Table 2
Building 13 Indoor and Ambient Air Results
Addendum to the Combined Report
Rohm and Haas Chemicals, LLC Philadelphia Plant

Analyte	Cas Number	1/10th Non-Residential Indoor Air VI Screening Value ($\mu\text{g}/\text{m}^3$)	9165028 IA-2-081717 1st Floor		9248178 IA-2-100417 1st Floor		9382454 IA2-122017 1st Floor		9165029 IA-1-081717 Basement		9248177 IA-1-100417 Basement		9382453 IA1-122017 Basement		9165030 AMB-1-081717 Rear Outdoor		9248179 AMB-100417 Rear Outdoor		9382455 AMB-122017 Rear Outdoor							
			Result	LOQ	Result	LOQ	Result	MDL	Result	LOQ	Result	LOQ	Result	MDL	Result	LOQ	Result	LOQ	Result	MDL						
Isooctane	540-84-1	NS	1.1	J	4.7		1.7	J	4.7	0.93	U	0.93		1.4	J	4.7	1.8	J	4.7	0.93	U	0.93				
Methyl t-Butyl Ether	1634-04-4	47	3.6	U	3.6		3.6	U	3.6	0.72	U	0.72		3.6	U	3.6	3.6	U	3.6	3.6	U	3.6				
4-Methyl-2-pentanone	108-10-1	1300	8.2	U	8.2		8.2	U	8.2	2.0	U	2		8.2	U	8.2	8.2	U	8.2	8.2	U	8.2				
Methylene Chloride	75-09-2	260	1.5	J	Q1	3.5		3.5	U	3.5	0.93	J	0.69	1.1	J	Q1	3.5	1.1	J	3.5	0.69	U	0.69			
Octane	111-65-9	NS	4.7	U	4.7		4.7	U	4.7	0.93	U	0.93		4.7	U	4.7	4.7	U	4.7	4.7	U	4.7				
Pentane	109-66-0	NS	4.2	3			8.3	3		8.7		0.59		4.6	3		7.7	3	2.0	J	0.59		2.1	J	3	
Styrene	100-42-5	440	1.1	J	4.3		0.87	J	4.3	0.85	U	0.85		4.3	U	4.3	4.3	U	4.3	4.3	U	4.3		0.85	U	0.85
1,1,1,2-Tetrachloroethane	630-20-6	1.7	6.9	U	6.9		6.9	U	6.9	1.4	U	1.4		6.9	U	6.9	6.9	U	6.9	6.9	U	6.9		6.9	U	6.9
1,1,2,2-Tetrachloroethane	79-34-5	0.21	6.9	U	6.9		6.9	U	6.9	1.4	U	1.4		6.9	U	6.9	6.9	U	6.9	6.9	U	6.9		6.9	U	6.9
Tetrachloroethene	127-18-4	18	6.8	U	6.8		6.8	U	6.8	1.4	U	1.4		6.8	U	6.8	6.8	U	6.8	6.8	U	6.8		6.8	U	6.8
Toluene	108-88-3	2200	3.8	3.8			4.4	3.8		2.5	J	0.75		3.2	J	3.8	3.1	J	3.8	1.8	J	0.75		2.3	J	3.8
1,1,1-Trichloroethane	71-55-6	2200	5.5	U	5.5		5.5	U	5.5	1.1	U	1.1		5.5	U	5.5	5.5	U	5.5	1.1	U	1.1		5.5	U	5.5
1,1,2-Trichloroethane	79-00-5	0.088	5.5	U	5.5		5.5	U	5.5	1.1	U	1.1		5.5	U	5.5	5.5	U	5.5	1.1	U	1.1		5.5	U	5.5
Trichloroethene	79-01-6	0.88	5.4	U	5.4		5.4	U	5.4	1.1	U	1.1		5.4	U	5.4	5.4	U	5.4	1.1	U	1.1		5.4	U	5.4
Trichlorofluoromethane	75-69-4	310	8	5.6			4.0	J	5.6	2.1	J	1.1		2.2	J	5.6	2.1	J	5.6	1.6	J	1.1		1.8	J	5.6
1,2,3-Trichloropropane	96-18-4	0.13	6.0	U	6		6.0	U	6	1.2	U	1.2		6.0	U	6	6.0	U	6	1.2	U	1.2		6.0	U	6
1,2,4-Trimethylbenzene	95-63-6	3.1	4.9	U	4.9		4.9	U	4.9	0.98	U	0.98		4.9	U	4.9	4.9	U	4.9	0.98	U	0.98		4.9	U	4.9
1,3,5-Trimethylbenzene	108-67-8	3.1	4.9	U	4.9		4.9	U	4.9	0.98	U	0.98		4.9	U	4.9	4.9	U	4.9	0.98	U	0.98		4.9	U	4.9
Vinyl Chloride	75-01-4	1.4	2.6	U	2.6		2.6	U	2.6	0.51	U	0.51		2.6	U	2.6	2.6	U	2.6	0.51	U	0.51		2.6	U	2.6
m/p-Xylene	179601-23-1	NS	1.4	J	4.3		2.3	J	4.3	1.4	J	0.87		1.5	J	4.3	2.0	J	4.3	1.2	J	0.87		0.99	J	4.3
o-Xylene	95-47-6	NS	4.3	U	4.3		0.95	J	4.3	0.87	U	0.87		4.3	U	4.3	4.3	U	4.3	0.87	U	0.87		4.3	U	4.3
Xylenes (Total)	1330-20-7	44	5.7	J	4.3		3.25	J	4.3	2.27	J	0.87		5.8	J	4.3	6.3	J	4.3	2.07	J	0.87		5.29	J	4.3

Notes:

Bolded result indicates result is greater than the 1/10th Non-Residential IA VI Screening Level.

Underlined result indicates limit of quantitation or method detection limit is greater than VI Screening Level.

Bold analyte name indicates at least one exceedance of the 1/10th Non-Residential IA VI Screening Level.

PADEP VI Guidance dated January 2017

All results in micrograms per cubic meter ($\mu\text{g}/\text{m}^3$).

J = Estimated value \geq the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ)

NS = No screening value available

Q1 = LCS/LCSD High

U = Analyte was not detected at the value indicated

Table 3
Building 13 Soil Sample Results Compared to Soil Vapor Intrusion Screening Values
Addendum to the Combined Report
Rohm and Haas Chemicals LLC Philadelphia Plant

LOCATION	CAS No.	1/10 Soil VI Screening Value Non-Residential	SB-290	SB-290 FD	SB-290	SB-290 FD-A	SB-294	SB-294	SB-319	SB-319	SB-320	SB-320	SB-334
COLLECTION DATE			1/15/2009	1/15/2009	1/15/2009	1/15/2009	1/12/2009	1/12/2009	1/13/2009	1/13/2009	1/15/2009	1/15/2009	2/18/2009
SAMPLE DEPTH			0' - 2'	0' - 2'	6' - 7'	6' - 7'	0' - 2'	5' - 6'	0' - 2'	4' - 5'	0' - 2'	8' - 9'	7' - 8'
Volatile Organic Compounds (mg/kg)													
1,1,2,2-TETRACHLOROETHANE	79-34-5	0.013	U < 0.001	U < 0.001	U < 0.001	U < 0.0009	U < 0.0012	U < 0.0009	U < 0.001	U < 0.0013	U < 0.0014	U < 0.0011	U < 0.15
1,1,2-TRICHLOROETHANE	79-00-5	0.015	U < 0.0031	U < 0.001	U < 0.001	U < 0.0009	U < 0.0012	U < 0.0009	U < 0.001	U < 0.0013	U < 0.0042	U < 0.0011	U < 0.18
1,2-DICHLOROETHANE	107-06-2	0.01	U < 0.002	U < 0.001	U < 0.001	U < 0.0009	U < 0.0012	U < 0.0009	U < 0.001	U < 0.0013	U < 0.0028	U < 0.0011	U < 0.14
BENZENE	71-43-2	0.013	U < 0.001	U < 0.001	U < 0.001	U < 0.0009	0.014	0.012	U < 0.001	U < 0.0013	U < 0.0014	U < 0.0011	0.61
BROMODICHLOROMETHANE	75-27-4	0.27	U < 0.001	U < 0.001	U < 0.001	U < 0.0009	U < 0.0012	U < 0.0009	U < 0.001	U < 0.0013	U < 0.0014	U < 0.0011	U < 0.13
CHLOROFORM	67-66-3	0.2	U < 0.0051	U < 0.001	U < 0.001	U < 0.0009	U < 0.0012	U < 0.0009	U < 0.001	U < 0.0013	U < 0.0071	U < 0.0011	U < 0.11
DIBROMOCHLOROMETHANE	124-48-1	0.25	U < 0.0051	U < 0.001	U < 0.001	U < 0.0009	U < 0.0012	U < 0.0009	U < 0.001	U < 0.0013	U < 0.0071	U < 0.0011	U < 0.11
TRICHLOROETHENE (TCE)	79-01-6	0.017	U < 0.001	U < 0.001	U < 0.001	U < 0.0009	U < 0.0012	U < 0.0009	U < 0.001	U < 0.0013	U < 0.0014	U < 0.0011	U < 0.18
1,4-DICHLOROBENZENE	106-46-7	1	U < 0.4	U < 0.39	U < 0.38	U < 0.38	U < 0.38	U < 0.38	U < 0.4	U < 0.43	U < 0.44	U < 0.37	2.7
HEXACHLOROETHANE	67-72-1	0.056	U < 0.04	U < 0.039	U < 0.038	U < 0.038	U < 0.038	U < 0.038	U < 0.04	U < 0.043	U < 0.044	U < 0.037	U < 0.087

Notes:

Exceeds Act II Screening Value

Underline indicates detection limit above screening level

All Results in milligrams per kilogram (mg/kg).

J = Estimated detect at the value shown.

U = Non-detect at the Reporting Detection Limit shown.

UJ = Estimated Non-detect at the Reporting Detection Limit shown.

Table 4
Building 13 VISL Calculator Output
Addendum to the Combined Report
Rohm and Haas Chemicals LLC Philadelphia Plant

OSWER VAPOR INTRUSION ASSESSMENT

Indoor Air Concentration to Risk (IAC-Risk) Calculator Version 3.5, June 2017 RSLs

Parameter	Symbol	Value	Instructions
Exposure Scenario	Scenario	Commercial	Select residential or commercial scenario from pull down list
Target Risk for Carcinogens	TCR	1.00E-05	Enter target risk for carcinogens (for comparison to the calculated VI carcinogenic risk in column E)
Target Hazard Quotient for Non-Carcinogens	THQ	1	Enter target hazard quotient for non-carcinogens (for comparison to the calculated VI hazard in column F)

CAS	Chemical Name	December 2017 Site Indoor Air Concentration	VI Carcinogenic Risk	VI Hazard	EPC
		Cia (ug/m ³)	CR	HQ	
71-43-2	Benzene	1.00E+00	6.4E-07	7.6E-03	Max
67-66-3	Chloroform	9.80E-01	1.8E-06	2.3E-03	DL
106-46-7	Dichlorobenzene, 1,4-	1.20E+00	1.1E-06	3.4E-04	DL
107-06-2	Dichloroethane, 1,2-	8.10E-01	1.7E-06	2.6E-02	DL
79-01-6	Trichloroethylene	1.10E+00	3.7E-07	1.3E-01	DL
	Total	5.6E-06	1.6E-01		

Inhalation Unit Risk	IUR Source*	Reference Concentration	RFC Source *	Mutagenic Indicator
		RfC (mg/m ³)		
IUR (ug/m ³) ⁻¹				i
7.80E-06	I	3.00E-02	I	
2.30E-05	I	9.80E-02	A	
1.10E-05	CA	8.00E-01	I	
2.60E-05	I	7.00E-03	P	
see note	I	2.00E-03	I	TCE

Notes:

- (1) **Inhalation Pathway Exposure Parameters (RME):**
- | | Units | Residential | Commercial | Selected (based on scenario) | |
|------------------------------------|-----------|-------------|------------|------------------------------|-------|
| | | Symbol | Value | Symbol | Value |
| Exposure Scenario | | | | | |
| Averaging time for carcinogens | (yrs) | ATc_R_IA | 70 | ATc_C_IA | 70 |
| Averaging time for non-carcinogens | (yrs) | ATnc_R_IA | 26 | ATnc_C_IA | 25 |
| Exposure duration | (yrs) | ED_R_IA | 26 | ED_C_IA | 25 |
| Exposure frequency | (days/yr) | EF_R_IA | 350 | EF_C_IA | 250 |
| Exposure time | (hr/day) | ET_R_IA | 24 | ET_C_IA | 8 |
- (2) **Generic Attenuation Factors:**
- | | Residential | Commercial | Selected (based on scenario) | | |
|--------------------------------|-------------|------------|------------------------------|-----------|-------|
| | Symbol | Value | Symbol | Value | |
| Source Medium of Vapors | | | | | |
| Groundwater | (-) | AFgw_R_IA | 0.001 | AFgw_C_IA | 0.001 |
| Sub-Slab and Exterior Soil Gas | (-) | AFss_R_IA | 0.03 | AFss_C_IA | 0.03 |
- (3) **Formulas**
- Cia, target = MIN (Cia,c; Cia,nc)
Cia,c (ug/m³) = TCR x ATc x (365 days/yr) x (24 hrs/day) / (ED x EF x ET x IUR)
Cia,nc (ug/m³) = THQ x ATnc x (365 days/yr) x (24 hrs/day) x RfC x (1000 ug/mg) / (ED x EF x ET)
- (4) **Special Case Chemicals**
- | | Residential | Commercial | Selected (based on scenario) | |
|-------------------|--------------|------------|------------------------------|----------|
| | Symbol | Value | Symbol | Value |
| Trichloroethylene | mIURTCE_R_IA | 1.00E-06 | mIURTCE_C_IA | 0.00E+00 |
| | IURTCE_R_IA | 3.10E-06 | IURTCE_C_IA | 4.10E-06 |

Table 4
Building 13 VISL Calculator Output
Addendum to the Combined Report
Rohm and Haas Chemicals LLC Philadelphia Plant

Mutagenic Chemicals

The exposure durations and age-dependent adjustment factors for mutagenic-mode-of-action are listed in the table below:

Note: This section applies to trichloroethylene and other mutagenic chemicals, but not to vinyl chloride.

Age Cohort	Exposure Duration	Age-dependent adjustment factor
0 - 2 years	2	10
2 - 6 years	4	3
6 - 16 years	10	3
16 - 26 years	10	1

Mutagenic-mode-of-action (MMOA) adjustment factor 25 This factor is used in the equations for mutagenic chemicals.

Vinyl Chloride

See the Navigation Guide equation for Cia,c for vinyl chloride.

Notation:

I = IRIS: EPA Integrated Risk Information System (IRIS). Available online at:

<http://www.epa.gov/iris/subst/index.html>

P = PPRTV. EPA Provisional Peer Reviewed Toxicity Values (PPRTVs). Available online at:

<http://hhpprtv.ornl.gov/pptv.shtml>

A = Agency for Toxic Substances and Disease Registry (ATSDR) Minimum Risk Levels (MRLs). Available online at:

<http://www.atsdr.cdc.gov/mrls/index.html>

CA = California Environmental Protection Agency/Office of Environmental Health Hazard Assessment assessments. Available online at:

<http://www.oehha.ca.gov/risk/ChemicalDB/index.asp>

H = HEAST. EPA Superfund Health Effects Assessment Summary Tables (HEAST) database. Available online at:

<http://epa-heast.ornl.gov/heast.shtml>

S = See RSL User Guide, Section 5

X = PPRTV Appendix

Mut = Chemical acts according to the mutagenic-mode-of-action, special exposure parameters apply (see footnote (4) above).

VC = Special exposure equation for vinyl chloride applies (see Navigation Guide for equation).

TCE = Special mutagenic and non-mutagenic IURs for trichloroethylene apply (see footnote (4) above).

Yellow highlighting indicates site-specific parameters that may be edited by the user.

Blue highlighting indicates exposure factors that are based on Risk Assessment Guidance for Superfund (RAGS) or EPA vapor intrusion guidance, which generally should not be changed.

Pink highlighting indicates VI carcinogenic risk greater than the target risk for carcinogens (TCR) or VI Hazard greater than or equal to the target hazard quotient for non-carcinogens (THQ).

EPC - exposure point concentration

Max - Maximum detect

DL - Detection limit

Table 5
Summary of Crushed Concrete and Brick Samples
Addendum to the Combined Report
Rohm and Haas Chemicals LLC Philadelphia Plant

Sample ID Lab Sample Number	CASRN	Units	Non-Residential Direct Contact 0' - 2'	Clean Fill Standard	Regulated Fill Standard	Ion Exchange Resins / Machine Shop / Tritons Manufacturing (Buildings 9, 80, 17, 6A, 6B, 86, 24, and 30)																			
						SP-1 729485 04/20/2006 SOLID	SP-2 729486 04/20/2006 SOLID	SP-3 729487 04/20/2006 SOLID	SP-4 729488 04/20/2006 SOLID	SP-5 729489 04/20/2006 SOLID	MP-1 729491 04/20/2006 SOLID	MP-2 729492 04/20/2006 SOLID	MP-3 729493 04/20/2006 SOLID	MP-4 729494 04/20/2006 SOLID	MP-5 729495 04/20/2006 SOLID	MP-6 729496 04/20/2006 SOLID	MP-7 729497 04/20/2006 SOLID	MP-8 729498 04/20/2006 SOLID	MP-9 729499 04/20/2006 SOLID	MP-10 729500 04/20/2006 SOLID	MP-11 729501 04/20/2006 SOLID	MP-12 729502 04/20/2006 SOLID			
VOLATILE COMPOUNDS (GC/MS)																									
Chloromethane	74-87-3	ug/Kg	1200000	38	38	NR	NR	NR	5.2 U	5.2 U	NR	NR	NR	NR	NR	NR									
Bromomethane	74-83-9	ug/Kg	400000	540	540	NR	NR	NR	5.2 U	5.2 U	NR	NR	NR	NR	NR	NR									
Vinyl Chloride	75-01-4	ug/Kg	61000	30	27	NR	NR	NR	5.2 U	5.2 U	NR	NR	NR	NR	NR	NR									
Chloroethane	75-00-3	ug/Kg	10000000	5000	19000	NR	NR	NR	5.2 U	5.2 U	NR	NR	NR	NR	NR	NR									
Methylene Chloride	75-09-2	ug/Kg	10000000	76	76	NR	NR	NR	3.1 U	3.1 U	NR	NR	NR	NR	NR	NR									
Acetone	67-64-1	ug/Kg	10000000	41000	110000	NR	NR	NR	12 B	13 B	NR	NR	NR	NR	NR	NR									
Carbon Disulfide	75-15-0	ug/Kg	10000000	160000	350000	NR	NR	NR	5.2 U	5.2 U	NR	NR	NR	NR	NR	NR									
1,1-Dichloroethene	75-35-4	ug/Kg	10000000	190	190	NR	NR	NR	0.8 B	2.1 U	2.1 U	NR	NR	NR	NR	NR	NR								
1,1-Dichloroethane	75-34-3	ug/Kg	1400000	650	2700	NR	NR	NR	5.2 U	5.2 U	NR	NR	NR	NR	NR	NR									
trans-1,2-Dichloroethene	156-60-5	ug/Kg	4800000	2300	2300	NR	NR	NR	5.2 U	5.2 U	NR	NR	NR	NR	NR	NR									
cis-1,2-Dichloroethene	156-59-2	ug/Kg	6400000	1600	1600	NR	NR	NR	5.2 U	5.2 U	NR	NR	NR	NR	NR	NR									
Chloroform	67-66-3	ug/Kg	97000	2500	2500	NR	NR	NR	0.8 J	5.2 U	5.2 U	NR	NR	NR	NR	NR	NR								
1,2-Dichloroethane	107-06-2	ug/Kg	86000	100	100	NR	NR	NR	2.1	2.1 U	2.1 U	NR	NR	NR	NR	NR	NR								
2-Butanone	78-93-3	ug/Kg	10000000	54000	110000	NR	NR	NR	5.2 U	5.2 U	NR	NR	NR	NR	NR	NR									
1,1,1-Trichloroethane	71-55-6	ug/Kg	10000000	7200	7200	NR	NR	NR	5.2 U	5.2 U	NR	NR	NR	NR	NR	NR									
Carbon Tetrachloride	56-23-5	ug/Kg	370000	260	260	NR	NR	NR	2.1 U	2.1 U	NR	NR	NR	NR	NR	NR									
Bromodichloromethane	75-27-4	ug/Kg	60000	3400	3400	NR	NR	NR	1 U	1 U	1 U	NR	NR	NR	NR	NR	NR								
1,2-Dichloropropane	78-87-5	ug/Kg	220000	110	110	NR	NR	NR	1.3	1 U	1 U	NR	NR	NR	NR	NR	NR								
cis-1,3-Dichloropropene	10061-01-5	ug/Kg	NS	120	460	NR	NR	NR	5.2 U	5.2 U	5.2 U	NR	NR	NR	NR	NR	NR								
Trichloroethene	79-01-6	ug/Kg	160000	170	170	NR	NR	NR	1 U	1 U	1 U	NR	NR	NR	NR	NR	NR								
Dibromochloromethane	124-48-1	ug/Kg	82000	3200	3200	NR	NR	NR	5.2 U	5.2 U	5.2 U	NR	NR	NR	NR	NR	NR								
1,1,2-Trichloroethane	79-00-5	ug/Kg	16000	150	150	NR	NR	NR	3.1 U	3.1 U	3.1 U	NR	NR	NR	NR	NR	NR								
Benzene	71-43-2	ug/Kg	290000	130	130	NR	NR	NR	1 U	1 U	1 U	NR	NR	NR	NR	NR	NR								
trans-1,3-Dichloropropene	10061-02-6	ug/Kg	NS	120	460	NR	NR	NR	5.2 U	5.2 U	5.2 U	NR	NR	NR	NR	NR	NR								
Bromoform	75-25-2	ug/Kg	2000000	4400	4400	NR	NR	NR	4.2 U	4.2 U	4.1 U	NR	NR	NR	NR	NR	NR								
4-Methyl-2-Pentanone	108-10-1	ug/Kg	10000000	2900	6300	NR	NR	NR	5.2 U	5.2 U	5.2 U	NR	NR	NR	NR	NR	NR								
2-Hexanone	591-78-6	ug/Kg	2400000	NS	NS	NR	NR	NR	5.2 U	5.2 U	5.2 U	NR	NR	NR	NR	NR	NR								
Tetrachloroethene	127-18-4	ug/Kg	3200000	430	430	NR	NR	NR	1 U	1 U	1 U	NR	NR	NR	NR	NR	NR								
1,1,2,2-Tetrachloroethane	79-34-5	ug/Kg	38000	9.3	9.3	NR	NR	NR	1 U	1 U	1 U	NR	NR	NR	NR	NR									

Table 5
Summary of Crushed Concrete and Brick Samples
Addendum to the Combined Report
John and Haas Chemicals LLC Philadelphia Plant

Table 5
Summary of Crushed Concrete and Brick Samples
Addendum to the Combined Report
Rohm and Haas Chemicals LLC Philadelphia Plant

Sample ID Lab Sample Number	CASRN	Units	Non-Residential Direct Contact 0' - 2'	Clean Fill Standard	Regulated Fill Standard	Ion Exchange Resins / Machine Shop / Tritons Manufacturing (Buildings 9, 80, 17, 6A, 6B, 6F, 86, 24, and 30)																			
						SP-1 729485 04/20/2006 SOLID	SP-2 729486 04/20/2006 SOLID	SP-3 729487 04/20/2006 SOLID	SP-4 729488 04/20/2006 SOLID	SP-5 729489 04/20/2006 SOLID	MP-1 729491 04/20/2006 SOLID	MP-2 729492 04/20/2006 SOLID	MP-3 729493 04/20/2006 SOLID	MP-4 729494 04/20/2006 SOLID	MP-5 729495 04/20/2006 SOLID	MP-6 729496 04/20/2006 SOLID	MP-7 729497 04/20/2006 SOLID	MP-8 729498 04/20/2006 SOLID	MP-9 729499 04/20/2006 SOLID	MP-10 729500 04/20/2006 SOLID	MP-11 729501 04/20/2006 SOLID	MP-12 729502 04/20/2006 SOLID			
HERBICIDES																									
2,4-D	94-75-7	ug/Kg	32000000	1800	1800	17 U	17 U	NR	NR	NR	18 U	17 U	17 U	17 U	18 U	18 U	18 U	NR	NR	NR	NR	NR	NR	NR	
2,4,5-TP (Silvex)	93-72-1	ug/Kg	26000000	22000	22000	17 U	17 U	NR	NR	NR	18 U	17 U	17 U	17 U	18 U	18 U	18 U	NR	NR	NR	NR	NR	NR	NR	
2,4,5-T	93-76-5	ug/Kg	32000000	1500	1500	17 U	17 U	NR	NR	NR	18 U	17 U	17 U	17 U	18 U	18 U	18 U	NR	NR	NR	NR	NR	NR	NR	
PCBs																									
Aroclor-1016	12674-11-2	ug/Kg	46000	15000	200000	68 U	68 U	69 U	NR	NR	71 U	69 U	68 U	69 U	71 U	71 U	71 U	NR	NR	NR	NR	NR	NR	NR	
Aroclor-1221	11104-28-2	ug/Kg	46000	630	2500	68 U	68 U	69 U	NR	NR	71 U	69 U	68 U	69 U	71 U	71 U	71 U	NR	NR	NR	NR	NR	NR	NR	
Aroclor-1232	11141-16-5	ug/Kg	46000	500	2000	68 U	68 U	69 U	NR	NR	71 U	69 U	68 U	69 U	71 U	71 U	71 U	NR	NR	NR	NR	NR	NR	NR	
Aroclor-1242	53469-21-9	ug/Kg	46000	16000	62000	68 U	68 U	69 U	NR	NR	190	69 U	240	69 U	160	71 U	NR	NR	NR	NR	NR	NR	NR	NR	
Aroclor-1248	12672-29-6	ug/Kg	46000	9900	44000	68 U	68 U	69 U	NR	NR	71 U	69 U	68 U	69 U	71 U	71 U	71 U	NR	NR	NR	NR	NR	NR	NR	
Aroclor-1254	11097-69-1	ug/Kg	46000	4400	44000	68 U	68 U	69 U	NR	NR	71 U	69 U	68 U	69 U	71 U	71 U	71 U	NR	NR	NR	NR	NR	NR	NR	
Aroclor-1260	11096-82-5	ug/Kg	46000	30000	130000	68 U	68 U	69 U	NR	NR	580	110	360	340	290	71 U	NR	NR	NR	NR	NR	NR	NR	NR	
Aroclor-1262	37324-23-5	ug/Kg	NS	NS	NS	68 U	68 U	69 U	NR	NR	71 U	69 U	68 U	69 U	71 U	71 U	71 U	NR	NR	NR	NR	NR	NR	NR	
Aroclor-1268	11100-14-4	ug/Kg	NS	NS	NS	68 U	68 U	69 U	NR	NR	71 U	69 U	68 U	69 U	71 U	71 U	71 U	NR	NR	NR	NR	NR	NR	NR	
PESTICIDES																									
Aldrin	309-00-2	ug/Kg	5400	100	440	340 U	34 U	14 U	NR	NR	14 U	6.9 U	68 U	14 U	35 U	NR	NR	NR	NR	NR	NR	NR	NR	NR	
alpha-BHC	319-84-6	ug/Kg	14000	46	190	340 U	34 U	14 U	NR	NR	160	62	140	190	210	170	NR	NR	NR	NR	NR	NR	NR	NR	
beta-BHC	319-85-7	ug/Kg	51000	220	820	340 U	34 U	14 U	NR	NR	14 U	6.9 U	68 U	14 U	35 U	NR	NR	NR	NR	NR	NR	NR	NR	NR	
delta-BHC	319-86-8	ug/Kg	NS	11000	30000	340 U	34 U	14 U	NR	NR	14 U	6.9 U	68 U	14 U	35 U	NR	NR	NR	NR	NR	NR	NR	NR	NR	
gamma-BHC (Lindane)	58-89-9	ug/Kg	83000	72	72	450	34 U	14 U	NR	NR	14 U	6.9 U	68 U	14 U	35 U	NR	NR	NR	NR	NR	NR	NR	NR	NR	
Chlordane	57-74-9	ug/Kg	260000	49000	49000	3400 U	340 U	140 U	NR	NR	140 U	69 U	680 U	140 U	350 U	NR	NR	NR	NR	NR	NR	NR	NR	NR	
4,4'-DDD	72-54-8	ug/Kg	380000	6800	30000	7400	320	120	NR	NR	290	140	1400	290	720	580	NR	NR	NR	NR	NR	NR	NR	NR	
4,4'-DDE	72-55-9	ug/Kg	270000	41000	170000	8600	1400	440	NR	NR	340	140	3000	370	930	960	NR	NR	NR	NR	NR	NR	NR	NR	
4,4'-DDT	50-29-3	ug/Kg	270000	53000	230000	2600	280	75	NR	NR	130 P*	92	840	160	250	380	NR	NR	NR	NR	NR	NR	NR	NR	
Dieldrin	60-57-1	ug/Kg	6000	110	440	340 U	34 U	14 U	NR	NR	25 P*	6.9 U	68 U	15 P*	35 U	35 U	NR	NR	NR	NR	NR	NR	NR	NR	
Endosulfan I	959-98-8	ug/Kg	1900000	110000	260000	340 U	34 U	14 U	NR	NR	14 U	6.9 U	68 U	14 U	35 U	NR	NR	NR	NR	NR	NR	NR	NR	NR	
Endosulfan II	33213-65-9	ug/Kg	1900000	130000	260000	340 U	34 U	14 U	NR	NR	14 U	6.9 U	68 U	14 U	35 U	NR	NR	NR	NR	NR	NR	NR	NR	NR	
Endosulfan sulfate	1031-07-8	ug/Kg	1900000	70000	70000	340 U	34 U	14 U	NR	NR	14 U	6.9 U	68 U	14 U	35 U	NR	NR	NR	NR	NR	NR	NR	NR	NR	
Endrin	72-20-8	ug/Kg	960000	5500	5500	340 U	34 U	14 U	NR	NR	14 U	6.9 U	68 U	14 U	35 U	NR	NR	NR	NR	NR	NR	NR	NR	NR	
Endrin aldehyde	7421-93-4	ug/Kg	NS	NS	NS	340 U	34 U	14 U	NR	NR	22 P*	6.9 U	68 U	14 U	35 U	NR	NR	NR	NR	NR	NR	NR	NR	NR	
Heptachlor	76-44-8	ug/Kg	20000	680	680	340 U	34 U	14 U	NR	NR	14 U	6.9 U	68 U	14 U	35 U	NR									

Table 5
Summary of Crushed Concrete and Brick Samples
Addendum to the Combined Report
Rohm and Haas Chemicals LLC Philadelphia Plant

Sample ID Lab Sample Number	CASRN	Units	Non-Residential Direct Contact 0' - 2'	Clean Fill Standard	Regulated Fill Standard	Ion Exchange Resins / Multi Products Area (R11 and R12 Buildings)											
						DP1-A 906498 03/20/2008 SOLID	DP1-B 906499 03/20/2008 SOLID	DP1-C 906500 03/20/2008 SOLID	DP1-D 906501 03/20/2008 SOLID	DP1-E 906502 03/20/2008 SOLID	DP1-F 906503 03/20/2008 SOLID	DP1-1 906504 03/20/2008 SOLID	DP1-8 906505 03/20/2008 SOLID	DP1-9 906506 03/20/2008 SOLID	DP1-16 906507 03/20/2008 SOLID	DP1-17 906508 03/20/2008 SOLID	DP1-24 906509 03/20/2008 SOLID
VOLATILE COMPOUNDS (GC/MS)																	
Chloromethane	74-87-3	ug/Kg	1200000	38	38	NR	NR	NR	NR	NR	NR	5.8 U	5.7 U	580 U	570 U	540 U	510 U
Bromomethane	74-83-9	ug/Kg	400000	540	540	NR	NR	NR	NR	NR	NR	5.8 U	5.7 U	580 U	570 U	540 U	510 U
Vinyl Chloride	75-01-4	ug/Kg	61000	30	27	NR	NR	NR	NR	NR	NR	5.8 U	5.7 U	580 U	570 U	540 U	510 U
Chloroethane	75-00-3	ug/Kg	10000000	5000	19000	NR	NR	NR	NR	NR	NR	5.8 U	5.7 U	580 U	570 U	540 U	510 U
Methylene Chloride	75-09-2	ug/Kg	10000000	76	76	NR	NR	NR	NR	NR	NR	0.8 JB	1.2 JB	350 U	340 U	320 U	300 U
Acetone	67-64-1	ug/Kg	10000000	41000	110000	NR	NR	NR	NR	NR	NR	3.6 JB	2.3 JB	580 U	570 U	540 U	510 U
Carbon Disulfide	75-15-0	ug/Kg	10000000	160000	350000	NR	NR	NR	NR	NR	NR	0.7 J	5.7 U	580 U	570 U	540 U	510 U
1,1-Dichloroethene	75-35-4	ug/Kg	10000000	190	190	NR	NR	NR	NR	NR	NR	2.3 U	2.3 U	230 U	230 U	220 U	200 U
1,1-Dichloroethane	75-34-3	ug/Kg	1400000	650	2700	NR	NR	NR	NR	NR	NR	5.8 U	5.7 U	580 U	570 U	540 U	510 U
trans-1,2-Dichloroethene	156-60-5	ug/Kg	4800000	2300	2300	NR	NR	NR	NR	NR	NR	5.8 U	5.7 U	580 U	570 U	540 U	510 U
cis-1,2-Dichloroethene	156-59-2	ug/Kg	6400000	1600	1600	NR	NR	NR	NR	NR	NR	5.8 U	5.7 U	580 U	570 U	540 U	510 U
Chloroform	67-66-3	ug/Kg	97000	2500	2500	NR	NR	NR	NR	NR	NR	5.8 U	5.7 U	580 U	570 U	540 U	510 U
1,2-Dichloroethane	107-06-2	ug/Kg	86000	100	100	NR	NR	NR	NR	NR	NR	2.3 U	2.3 U	230 U	230 U	220 U	200 U
2-Butanone	78-93-3	ug/Kg	10000000	54000	110000	NR	NR	NR	NR	NR	NR	5.8 U	5.7 U	580 U	570 U	540 U	510 U
1,1,1-Trichloroethane	71-55-6	ug/Kg	10000000	7200	7200	NR	NR	NR	NR	NR	NR	5.8 U	5.7 U	580 U	570 U	230 J	510 U
Carbon Tetrachloride	56-23-5	ug/Kg	370000	260	260	NR	NR	NR	NR	NR	NR	2.3 U	2.3 U	230 U	230 U	220 U	200 U
Bromodichloromethane	75-27-4	ug/Kg	60000	3400	3400	NR	NR	NR	NR	NR	NR	1.2 U	1.1 U	120 U	110 U	110 U	100 U
1,2-Dichloropropane	78-87-5	ug/Kg	220000	110	110	NR	NR	NR	NR	NR	NR	1.2 U	1.1 U	120 U	110 U	110 U	100 U
cis-1,3-Dichloropropene	10061-01-5	ug/Kg	NS	120	460	NR	NR	NR	NR	NR	NR	5.8 U	5.7 U	580 U	570 U	540 U	510 U
Trichloroethene	79-01-6	ug/Kg	160000	170	170	NR	NR	NR	NR	NR	NR	1.2 U	1.1 U	120 U	110 U	110 U	100 U
Dibromochloromethane	124-48-1	ug/Kg	82000	3200	3200	NR	NR	NR	NR	NR	NR	5.8 U	5.7 U	580 U	570 U	540 U	510 U
1,1,2-Trichloroethane	79-00-5	ug/Kg	16000	150	150	NR	NR	NR	NR	NR	NR	3.5 U	3.4 U	350 U	340 U	320 U	300 U
Benzene	71-43-2	ug/Kg	290000	130	130	NR	NR	NR	NR	NR	NR	1.2 U	1.1 U	120 U	110 U	110 U	100 U
trans-1,3-Dichloropropene	10061-02-6	ug/Kg	NS	120	460	NR	NR	NR	NR	NR	NR	5.8 U	5.7 U	580 U	570 U	540 U	510 U
Bromoform	75-25-2	ug/Kg	2000000	4400	4400	NR	NR	NR	NR	NR	NR	4.7 U	4.6 U	460 U	460 U	430 U	410 U
4-Methyl-2-Pentanone	108-10-1	ug/Kg	10000000	2900	6300	NR	NR	NR	NR	NR	NR	5.8 U	5.7 U	580 U	570 U	540 U	510 U
2-Hexanone	591-78-6	ug/Kg	2400000	NS	NS	NR	NR	NR	NR	NR	NR	5.8 U	5.7 U	580 U	570 U	540 U	510 U
Tetrachloroethene	127-18-4	ug/Kg	3200000	430	430	NR	NR	NR	NR	NR	NR	1.2 U	1.1 U	70 J	110 J	120	190
1,1,2,2-Tetrachloroethane	79-34-5	ug/Kg	38000	9.3	9.3	NR	NR	NR	NR	NR	NR	1.2 U	1.1 U	120 U	110 U	110 U	100 U
Toluene	108-88-3	ug/Kg	10000000	14000	14000	NR	NR	NR	NR	NR	NR	5.8 U	5.7 U	1800	310 J	1500	410 J
Chlorobenzene	108-90-7	ug/Kg	4000000	6100	6100	NR	NR	NR	NR	NR	NR	5.8 U	5.7 U	580 U	570 U	540 U	45 J
Ethylbenzene	100-41-4	ug/Kg	890000	46000	46000	NR	NR	NR	NR	NR	NR	4.7 U	4.6 U	210 J	93 J	240 J	260 J
Styrene	100-42-5	ug/Kg	10000000	24000	24000	NR	NR	NR	NR	NR	NR	5.8 U	5.7 U	580 U	570 U	64 J	510 U
Xylene (Total)	1330-20-7	ug/Kg	8000000	990000	990000	NR	NR	NR	NR	NR	NR	5.8 U	5.7 U	1000	560 J	1500	1800

Table 5
Summary of Crushed Concrete and Brick Samples
Addendum to the Combined Report
Rohm and Haas Chemicals LLC Philadelphia Plant

Sample ID Lab Sample Number	CASRN	Units	Non-Residential Direct Contact 0' - 2'	Clean Fill Standard	Regulated Fill Standard	Ion Exchange Resins / Multi Products Area (R11 and R12 Buildings)													
						DP1-A 906498 03/20/2008 SOLID	DP1-B 906499 03/20/2008 SOLID	DP1-C 906500 03/20/2008 SOLID	DP1-D 906501 03/20/2008 SOLID	DP1-E 906502 03/20/2008 SOLID	DP1-F 906503 03/20/2008 SOLID	DP1-1 906504 03/20/2008 SOLID	DP1-8 906505 03/20/2008 SOLID	DP1-9 906506 03/20/2008 SOLID	DP1-16 906507 03/20/2008 SOLID	DP1-17 906508 03/20/2008 SOLID	DP1-24 906509 03/20/2008 SOLID	DP1-24 906509 03/20/2008 SOLID	
SEMIVOLATILE COMPOUNDS (GC/MS)																			
Phenol	108-95-2	ug/Kg	16000000	66000	66000	53 J	780 U	62 J	100 J	89 J	130 J	NR	NR	NR	NR	NR	NR	NR	NR
2-Chlorophenol	95-57-8	ug/Kg	10000000	4400	4400	390 U	780 U	390 U	780 U	390 U	790 U	NR	NR	NR	NR	NR	NR	NR	NR
2-Methylphenol	95-48-7	ug/Kg	16000000	64000	180000	27 J	780 U	390 U	780 U	390 U	790 U	NR	NR	NR	NR	NR	NR	NR	NR
4-Methylphenol	106-44-5	ug/Kg	16000000	4200	12000	390 U	780 U	390 U	780 U	390 U	790 U	NR	NR	NR	NR	NR	NR	NR	NR
2-Nitrophenol	88-75-5	ug/Kg	26000000	5900	17000	390 U	780 U	390 U	780 U	390 U	790 U	NR	NR	NR	NR	NR	NR	NR	NR
2,4-Dimethylphenol	105-67-9	ug/Kg	10000000	32000	87000	390 U	780 U	390 U	780 U	390 U	790 U	NR	NR	NR	NR	NR	NR	NR	NR
2,4-Dichlorophenol	120-83-2	ug/Kg	9600000	1000	1000	41 J	59 J	85 J	160 J	110 J	790 U	NR	NR	NR	NR	NR	NR	NR	NR
4-Chloro-3-methylphenol	59-50-7	ug/Kg	19000000	NS	NS	390 U	780 U	390 U	780 U	390 U	790 U	NR	NR	NR	NR	NR	NR	NR	NR
2,4,6-Trichlorophenol	88-06-2	ug/Kg	320000	3100	8900	390 U	780 U	390 U	780 U	390 U	790 U	NR	NR	NR	NR	NR	NR	NR	NR
2,4,5-Trichlorophenol	95-95-4	ug/Kg	19000000	2300000	6100000	390 U	780 U	390 U	780 U	390 U	790 U	NR	NR	NR	NR	NR	NR	NR	NR
2,4-Dinitrophenol	51-28-5	ug/Kg	6400000	210	460	1200 U	2300 U	1200 U	2300 U	1200 U	2400 U	NR	NR	NR	NR	NR	NR	NR	NR
4-Nitrophenol	100-02-7	ug/Kg	2600000	4100	4100	1200 U	2300 U	1200 U	2300 U	1200 U	2400 U	NR	NR	NR	NR	NR	NR	NR	NR
4,6-Dinitro-2-methylphenol	534-52-1	ug/Kg	260000	NS	NS	1200 U	2300 U	1200 U	2300 U	1200 U	2400 U	NR	NR	NR	NR	NR	NR	NR	NR
Pentachlorophenol	87-86-5	ug/Kg	230000	5000	5000	1200 U	2300 U	1200 U	2300 U	1200 U	2400 U	NR	NR	NR	NR	NR	NR	NR	NR
bis(2-Chloroethyl)ether	111-44-4	ug/Kg	6700	3.9	17	39 U	78 U	39 U	78 U	39 U	79 U	NR	NR	NR	NR	NR	NR	NR	NR
1,3-Dichlorobenzene	541-73-1	ug/Kg	10000000	61000	61000	20 J	780 U	390 U	69 J	96 J	110 J	NR	NR	NR	NR	NR	NR	NR	NR
1,4-Dichlorobenzene	106-46-7	ug/Kg	200000	10000	10000	390 U	780 U	390 U	780 U	390 U	790 U	NR	NR	NR	NR	NR	NR	NR	NR
1,2-Dichlorobenzene	95-50-1	ug/Kg	10000000	59000	59000	14 J	120 J	37 J	70 J	64 J	96 J	NR	NR	NR	NR	NR	NR	NR	NR
bis(2-chloroisopropyl)ether	108-60-1	ug/Kg	220000	8000	3900	780 U	390 U	780 U	390 U	790 U	NR	NR	NR	NR	NR	NR	NR	NR	NR
N-Nitroso-di-n-propylamine	621-64-7	ug/Kg	13000	1.3	5.1	39 U	78 U	39 U	78 U	39 U	79 U	NR	NR	NR	NR	NR	NR	NR	NR
Hexachloroethane	67-72-1	ug/Kg	220000	560	560	39 U	78 U	39 U	78 U	39 U	79 U	NR	NR	NR	NR	NR	NR	NR	NR
Nitrobenzene	98-95-3	ug/Kg	6400000	790	2200	39 U	78 U	39 U	78 U	39 U	79 U	NR	NR	NR	NR	NR	NR	NR	NR
Isophorone	78-59-1	ug/Kg	10000000	1900	1900	390 U	780 U	24 J	24 J	30 J	790 U	NR	NR	NR	NR	NR	NR	NR	NR
bis(2-Chloroethoxy)methane	111-91-1	ug/Kg	9600000	NS	NS	390 U	780 U	390 U	780 U	390 U	790 U	NR	NR	NR	NR	NR	NR	NR	NR
1,2,4-Trichlorobenzene	120-82-1	ug/Kg	3100000	27000	27000	10 J	78 U	9.9 J	19 J	22 J	28 J	NR	NR	NR	NR	NR	NR	NR	NR
Naphthalene	91-20-3	ug/Kg	760000	25000	25000	69 J	93 J	220 J	190 J	110 J	170 J	NR	NR	NR	NR	NR	NR	NR	NR
4-Chloroaniline	106-47-8	ug/Kg	460000	19000	52000	390 U	29 J	35 J	79 J	58 J	790 U	NR	NR	NR	NR	NR	NR	NR	NR
Hexachlorobutadiene	87-68-3	ug/Kg	1200000	1200	1200	78 U	160 U	79 U	160 U	79 U	160 U	NR	NR	NR	NR	NR	NR	NR	NR
2-Methylnaphthalene	91-57-6	ug/Kg	13000000	2900000	8000000	27 J	780 U	470	90 J	51 J	100 J	NR	NR	NR	NR	NR	NR	NR	NR
Hexachlorocyclopentadiene	77-47-4	ug/Kg	10000000	91000	91000	390 U	780 U	390 U	780 U	390 U	790 U	NR	NR	NR	NR	NR	NR	NR	NR
2-Chloronaphthalene	91-58-7	ug/Kg	19000000	6200000	18000000	390 U	780 U	390 U	780 U	390 U	790 U	NR	NR	NR	NR	NR	NR	NR	NR
2-Nitroaniline	88-74-4	ug/Kg	32000000	33	91	780 U	1600 U	790 U	1600 U	790 U	1600 U	NR	NR	NR	NR	NR	NR	NR	NR
Dimethylphthalate	131-11-3	ug/Kg	NS	NS	NS	100 J	780 U	390 U	780 U	390 U	790 U	NR	NR	NR	NR	NR	NR	NR	NR
Acenaphthylene	208-96-8	ug/Kg	190000000	2500000	6900000	15 J	17 J	390 U	51 J	42 J	39 J	NR	NR	NR	NR	NR	NR	NR	NR
2,6-Dinitrotoluene	606-20-2	ug/Kg	61000	1100	3000	78 U	160 U	79 U	160 U	79 U	160 U	NR	NR	NR	NR	NR	NR	NR	NR
3-Nitroaniline	99-09-2	ug/Kg	NS	38	100	780 U	1600 U</td												

Table 5
Summary of Crushed Concrete and Brick Samples
Addendum to the Combined Report
Rohm and Haas Chemicals LLC Philadelphia Plant

Sample ID Lab Sample Number	CASRN	Units	Non-Residential Direct Contact 0' - 2'	Clean Fill Standard	Regulated Fill Standard	Ion Exchange Resins / Multi Products Area (R11 and R12 Buildings)													
						DP1-A 906498 03/20/2008 SOLID	DP1-B 906499 03/20/2008 SOLID	DP1-C 906500 03/20/2008 SOLID	DP1-D 906501 03/20/2008 SOLID	DP1-E 906502 03/20/2008 SOLID	DP1-F 906503 03/20/2008 SOLID	DP1-1 906504 03/20/2008 1	DP1-8 906505 03/20/2008 SOLID	DP1-9 906506 03/20/2008 50	DP1-16 906507 03/20/2008 SOLID	DP1-17 906508 03/20/2008 50	DP1-24 906509 03/20/2008 SOLID	DP1-24 906509 03/20/2008 50	
HERBICIDES																			
2,4-D	94-75-7	ug/Kg	32000000	1800	1800	20 U	20 U	20 U	19 U	20 U	20 U	NR	NR	NR	NR	NR	NR	NR	NR
2,4,5-TP (Silvex)	93-72-1	ug/Kg	26000000	22000	22000	20 U	20 U	20 U	19 U	20 U	20 U	NR	NR	NR	NR	NR	NR	NR	NR
2,4,5-T	93-76-5	ug/Kg	32000000	1500	1500	20 U	20 U	20 U	19 U	20 U	20 U	NR	NR	NR	NR	NR	NR	NR	NR
PCBs						78 U	78 U	79 U	78 U	79 U	79 U	NR	NR	NR	NR	NR	NR	NR	NR
Aroclor-1016	12674-11-2	ug/Kg	46000	15000	200000	78 U	78 U	79 U	78 U	79 U	79 U	NR	NR	NR	NR	NR	NR	NR	NR
Aroclor-1221	11104-28-2	ug/Kg	46000	630	2500	78 U	78 U	79 U	78 U	79 U	79 U	NR	NR	NR	NR	NR	NR	NR	NR
Aroclor-1232	11141-16-5	ug/Kg	46000	500	2000	78 U	78 U	79 U	78 U	79 U	79 U	NR	NR	NR	NR	NR	NR	NR	NR
Aroclor-1242	53469-21-9	ug/Kg	46000	16000	62000	78 U	78 U	79 U	78 U	79 U	79 U	NR	NR	NR	NR	NR	NR	NR	NR
Aroclor-1248	12672-29-6	ug/Kg	46000	9900	44000	78 U	78 U	79 U	78 U	79 U	79 U	NR	NR	NR	NR	NR	NR	NR	NR
Aroclor-1254	11097-69-1	ug/Kg	46000	4400	44000	78 U	78 U	79 U	78 U	79 U	79 U	NR	NR	NR	NR	NR	NR	NR	NR
Aroclor-1260	11096-82-5	ug/Kg	46000	30000	130000	78 U	78 U	79 U	78 U	79 U	79 U	NR	NR	NR	NR	NR	NR	NR	NR
Aroclor-1262	37324-23-5	ug/Kg	NS	NS	NS	78 U	78 U	79 U	78 U	79 U	79 U	NR	NR	NR	NR	NR	NR	NR	NR
Aroclor-1268	11100-14-4	ug/Kg	NS	NS	NS	240	78 U	340	170	240	79 U	NR	NR	NR	NR	NR	NR	NR	NR
PESTICIDES																			
Aldrin	309-00-2	ug/Kg	5400	100	440	78 U	1600 U	1600 U	1600 U	1600 U	1600 U	NR	NR	NR	NR	NR	NR	NR	NR
alpha-BHC	319-84-6	ug/Kg	14000	46	190	78 U	1600 U	1600 U	1600 U	1600 U	1600 U	NR	NR	NR	NR	NR	NR	NR	NR
beta-BHC	319-85-7	ug/Kg	51000	220	820	78 U	1600 U	1600 U	1600 U	1600 U	1600 U	NR	NR	NR	NR	NR	NR	NR	NR
delta-BHC	319-86-8	ug/Kg	NS	11000	30000	78 U	1600 U	1600 U	1600 U	1600 U	1600 U	NR	NR	NR	NR	NR	NR	NR	NR
gamma-BHC (Lindane)	58-89-9	ug/Kg	83000	72	72	78 U	1600 U	1600 U	1600 U	1600 U	1600 U	NR	NR	NR	NR	NR	NR	NR	NR
Chlordane	57-74-9	ug/Kg	260000	49000	49000	780 U	16000 U	16000 U	16000 U	16000 U	16000 U	NR	NR	NR	NR	NR	NR	NR	NR
4,4'-DDD	72-54-8	ug/Kg	380000	6800	30000	180 P*	1600 U	23000	NR	NR	NR	NR	NR	NR	NR				
4,4'-DDE	72-55-9	ug/Kg	270000	41000	170000	78 U	36000	23000	28000	42000	23000	NR	NR	NR	NR	NR	NR	NR	NR
4,4'-DDT	50-29-3	ug/Kg	270000	53000	230000	78 U	1600 U	1600 U	1600 U	1600 U	1600 U	NR	NR	NR	NR	NR	NR	NR	NR
Dieldrin	60-57-1	ug/Kg	6000	110	440	78 U	1600 U	1600 U	1600 U	1600 U	1600 U	NR	NR	NR	NR	NR	NR	NR	NR
Endosulfan I	959-98-8	ug/Kg	19000000	110000	260000	78 U	1600 U	1600 U	1600 U	1600 U	1600 U	NR	NR	NR	NR	NR	NR	NR	NR
Endosulfan II	33213-65-9	ug/Kg	19000000	130000	260000	78 U	1600 U	1600 U	1600 U	1600 U	1600 U	NR	NR	NR	NR	NR	NR	NR	NR
Endosulfan sulfate	1031-07-8	ug/Kg	19000000	70000	70000	78 U	1600 U	1600 U	1600 U	1600 U	1600 U	NR	NR	NR	NR	NR	NR	NR	NR
Endrin	72-20-8	ug/Kg	960000	5500	5500	78 U	1600 U	1600 U	1600 U	1600 U	1600 U	NR	NR	NR	NR	NR	NR	NR	NR
Endrin aldehyde	7421-93-4	ug/Kg	NS	NS	NS	78 U	1600 U	1600 U	1600 U	1600 U	1600 U	NR	NR	NR	NR	NR	NR	NR	NR
Heptachlor	76-44-8	ug/Kg	20000	680	680	78 U	1600 U	1600 U	1600 U	1600 U	1600 U	NR	NR	NR	NR	NR	NR	NR	NR
Heptachlor epoxide	1024-57-3	ug/Kg	10000	1100	1100	78 U	1600 U	1600 U	1600 U	1600 U	1600 U	NR	NR	NR	NR	NR	NR	NR	NR
Toxaphene	8001-35-2	ug/Kg	83000	1200	1200	780 U	16000 U	16000 U	16000 U	16000 U	16000 U	NR	NR	NR	NR	NR	NR	NR	NR
METALS						2.8	3.7	2.2 B	1.6 B	7.8	2.5	NR	NR	NR	NR	NR	NR	NR	NR
Antimony	7440-36-0	mg/Kg	1300	27	27	0.44 B	0.39 B	0.49	0.36 B	0.42 B	0.42 B	NR	NR	NR	NR	NR	NR	NR	NR
Arsenic	7440-38-2	mg/Kg	61	12	53	2.7	3.9	5	5.4	5.8	8.5	NR	NR	NR	NR	NR	NR	NR	NR
Beryllium	7440-41-7	mg/Kg	11	320	320	0.29 B	1.1 B	0.54 B	0.98 B	0.46 B	0.35 B	NR	NR	NR	NR	NR	NR	NR	NR
Cadmium	7440-43-9	mg/Kg	6	38	38	0.29 B	1.1 B	0.54 B	0.98 B	0.46 B	0.35 B	NR	NR	NR	NR	NR	NR	NR	NR
Chromium	7440-47-3	mg/Kg	190000	94	190														

Table 5
Summary of Crushed Concrete and Brick Samples
Addendum to the Combined Report
Rohm and Haas Chemicals LLC Philadelphia Plant

Sample ID Lab Sample Number	CASRN	Units	Non-Residential Direct Contact 0' - 2'	Clean Fill Standard	Regulated Fill Standard	Precious Metals Recovery / Multi Products Area (R6 and R10 Buildings)										Research Lab / Admin Area (Buildings 60 and 70)								
						DP2-A 942441 08/13/2008 SOLID	DP2-B 942442 08/13/2008 SOLID	DP2-C 942443 08/13/2008 SOLID	DP2-5 942444 08/13/2008 SOLID	DP2-11 942445 08/13/2008 SOLID	DP2-12 942446 08/13/2008 SOLID	DP3-A 942447 08/13/2008 SOLID	DP3-B 942448 08/13/2008 SOLID	DP3-5 942449 08/13/2008 SOLID	DP3-6 942450 08/13/2008 SOLID	DP4-A 952003 09/16/2008 SOLID	DP4-B 952004 09/16/2008 SOLID	DP4-C 952005 09/16/2008 SOLID	DP4-4 952006 09/16/2008 SOLID	DP4-6 952007 09/16/2008 SOLID	DP4-9 952008 09/16/2008 SOLID			
VOLATILE COMPOUNDS (GC/MS)																								
Chloromethane	74-87-3	ug/Kg	1200000	38	38	NR	NR	NR	620 U	540 U	560 U	NR	NR	660 U	610 U	NR	NR	NR	NR	6 U	6.7 U	6.9 U		
Bromomethane	74-83-9	ug/Kg	400000	540	540	NR	NR	NR	620 U	540 U	560 U	NR	NR	660 U	610 U	NR	NR	NR	NR	6 U	6.7 U	6.9 U		
Vinyl Chloride	75-01-4	ug/Kg	61000	30	27	NR	NR	NR	620 U	540 U	560 U	NR	NR	660 U	610 U	NR	NR	NR	NR	6 U	6.7 U	6.9 U		
Chloroethane	75-00-3	ug/Kg	10000000	5000	19000	NR	NR	NR	620 U	540 U	560 U	NR	NR	660 U	610 U	NR	NR	NR	NR	6 U	6.7 U	6.9 U		
Methylene Chloride	75-09-2	ug/Kg	10000000	41000	110000	NR	NR	NR	370 U	320 U	330 U	NR	NR	390 U	370 U	NR	NR	NR	NR	3.6 U	4 U	4.1 U		
Acetone	67-64-1	ug/Kg	10000000	160000	350000	NR	NR	NR	620 U	540 U	560 U	NR	NR	660 U	610 U	NR	NR	NR	NR	42 B	41 B	50 B		
Carbon Disulfide	75-15-0	ug/Kg	10000000	190	190	NR	NR	NR	250 U	220 U	220 U	NR	NR	260 U	240 U	NR	NR	NR	NR	0.9 J	1.2 J	0.8 J		
1,1-Dichloroethene	75-35-4	ug/Kg	10000000	650	2700	NR	NR	NR	620 U	540 U	560 U	NR	NR	660 U	610 U	NR	NR	NR	NR	2.4 U	2.7 U	2.7 U		
1,1-Dichloroethane	75-34-3	ug/Kg	1400000	2300	2300	NR	NR	NR	620 U	540 U	560 U	NR	NR	660 U	610 U	NR	NR	NR	NR	6 U	6.7 U	6.9 U		
trans-1,2-Dichloroethene	156-60-5	ug/Kg	4800000	1600	1600	NR	NR	NR	620 U	540 U	560 U	NR	NR	660 U	610 U	NR	NR	NR	NR	6 U	6.7 U	6.9 U		
cis-1,2-Dichloroethene	156-59-2	ug/Kg	6400000	2500	2500	NR	NR	NR	620 U	540 U	560 U	NR	NR	660 U	610 U	NR	NR	NR	NR	6 U	6.7 U	6.9 U		
Chloroform	67-66-3	ug/Kg	97000	100	100	NR	NR	NR	89 J	54 J	220 U	NR	NR	260 U	240 U	NR	NR	NR	NR	2.4 U	2.7 U	2.7 U		
1,2-Dichloroethane	107-06-2	ug/Kg	86000	100	100	NR	NR	NR	620 U	540 U	560 U	NR	NR	660 U	610 U	NR	NR	NR	NR	6 U	6.7 U	6.9 U		
2-Butanone	78-93-3	ug/Kg	10000000	54000	110000	NR	NR	NR	620 U	540 U	560 U	NR	NR	660 U	610 U	NR	NR	NR	NR	6 U	6.7 U	6.9 U		
1,1,1-Trichloroethane	71-55-6	ug/Kg	10000000	7200	7200	NR	NR	NR	620 U	540 U	560 U	NR	NR	660 U	610 U	NR	NR	NR	NR	6 U	6.7 U	6.9 U		
Carbon Tetrachloride	56-23-5	ug/Kg	370000	260	260	NR	NR	NR	250 U	220 U	220 U	NR	NR	260 U	240 U	NR	NR	NR	NR	2.4 U	2.7 U	2.7 U		
Bromodichloromethane	75-27-4	ug/Kg	60000	3400	3400	NR	NR	NR	120 U	110 U	110 U	NR	NR	130 U	120 U	NR	NR	NR	NR	1.2 U	1.3 U	1.4 U		
1,2-Dichloropropane	78-87-5	ug/Kg	220000	110	110	NR	NR	NR	120 U	110 U	110 U	NR	NR	130 U	120 U	NR	NR	NR	NR	1.2 U	1.3 U	1.4 U		
cis-1,3-Dichloropropene	10061-01-5	ug/Kg	NS	120	460	NR	NR	NR	620 U	540 U	560 U	NR	NR	660 U	610 U	NR	NR	NR	NR	6 U	6.7 U	6.9 U		
Trichloroethene	79-01-6	ug/Kg	160000	170	170	NR	NR	NR	120 U	110 U	110 U	NR	NR	130 U	120 U	NR	NR	NR	NR	1.2 U	1.3 U	1.4 U		
Dibromochloromethane	124-48-1	ug/Kg	82000	3200	3200	NR	NR	NR	620 U	540 U	560 U	NR	NR	660 U	610 U	NR	NR	NR	NR	6 U	6.7 U	6.9 U		
1,1,2-Trichloroethane	79-00-5	ug/Kg	16000	150	150	NR	NR	NR	370 U	320 U	330 U	NR	NR	390 U	370 U	NR	NR	NR	NR	3.6 U	4 U	4.1 U		
Benzene	71-43-2	ug/Kg	290000	130	130	NR	NR	NR	120 U	110 U	110 U	NR	NR	130 U	120 U	NR	NR	NR	NR	1.2 U	1.3 U	1.4 U		
trans-1,3-Dichloropropene	10061-02-6	ug/Kg	NS	120	460	NR	NR	NR	620 U	540 U	560 U	NR	NR	660 U	610 U	NR	NR	NR	NR	6 U	6.7 U	6.9 U		
Bromoform	75-25-2	ug/Kg	2000000	4400	4400	NR	NR	NR	490 U	430 U	440 U	NR	NR	520 U	490 U	NR	NR	NR	NR	4.8 U	5.4 U	5.5 U		
4-Methyl-2-Pentanone	108-10-1	ug/Kg	10000000	2900	6300	NR	NR	NR	620 U	540 U	560 U	NR	NR	660 U	610 U	NR	NR	NR	NR	6 U	6.7 U	6.9 U		
2-Hexanone	591-78-6	ug/Kg	2400000	NS	NS	NR	NR	NR	620 U	540 U	560 U	NR	NR	660 U	610 U	NR	NR	NR	NR	6 U	6.7 U	6.9 U		
Tetrachloroethene	127-18-4	ug/Kg	3200000	430	430	NR	NR	NR	2800	110	92 J	NR	NR	130 U	130	NR	NR	NR	NR	1.2 U	1.3 U	1.4 U		
1,1,2,2-Tetrachloroethane	79-34-5	ug/Kg	38000	9.3	9.3	NR	NR	NR	120 U	110 U	110 U	NR	NR	130 U	120 U	NR	NR	NR	NR	1.2 U	1.3 U	1.4 U		
Toluene	108-88-3	ug/Kg	10000000																					

Table 5
Summary of Crushed Concrete and Brick Samples
Addendum to the Combined Report
Rohm and Haas Chemicals LLC Philadelphia Plant

Sample ID Lab Sample Number	CASRN	Units	Non-Residential Direct Contact 0' - 2'	Clean Fill Standard	Regulated Fill Standard	Precious Metals Recovery / Multi Products Area (R6 and R10 Buildings)										Research Lab / Admin Area (Buildings 60 and 70)								
						DP2-A 942441	DP2-B 942442	DP2-C 942443	DP2-5 942444	DP2-11 942445	DP2-12 942446	DP3-A 942447	DP3-B 942448	DP3-5 942449	DP3-6 942450	DP4-A 952003	DP4-B 952004	DP4-C 952005	DP4-4 952006	DP4-6 952007	DP4-9 952008			
Sampling Date						08/13/2008	SOLID	08/13/2008	SOLID	08/13/2008	SOLID	08/13/2008	SOLID	08/13/2008	SOLID	09/16/2008	SOLID	09/16/2008	SOLID	09/16/2008	SOLID	09/16/2008	SOLID	
Matrix						08/13/2008	SOLID	08/13/2008	SOLID	08/13/2008	SOLID	08/13/2008	SOLID	08/13/2008	SOLID	08/13/2008	SOLID	09/16/2008	SOLID	09/16/2008	SOLID	09/16/2008	SOLID	
Dilution Factor						50	50	50	50	50	50	50	50	50	50	50	50	1	1	1	1	1	1	
SEMICVOLATILE COMPOUNDS (GC/MS)																								
Phenol	108-95-2	ug/Kg	16000000	66000	66000	1800 U	270 J	1800 U	NR	NR	NR	1800 U	1900 U	NR	NR	760 U	770 U	760 U	NR	NR	NR	NR	NR	NR
2-Chlorophenol	95-57-8	ug/Kg	10000000	4400	4400	1800 U	1800 U	1800 U	NR	NR	NR	1800 U	1900 U	NR	NR	760 U	770 U	760 U	NR	NR	NR	NR	NR	NR
2-Methylphenol	95-48-7	ug/Kg	16000000	64000	180000	100 J	74 J	48 J	NR	NR	NR	1800 U	48 J	NR	NR	760 U	770 U	760 U	NR	NR	NR	NR	NR	NR
4-Methylphenol	106-44-5	ug/Kg	16000000	4200	12000	1800 U	1800 U	1800 U	NR	NR	NR	1800 U	1900 U	NR	NR	760 U	770 U	760 U	NR	NR	NR	NR	NR	NR
2-Nitrophenol	88-75-5	ug/Kg	26000000	5900	17000	1800 U	1800 U	1800 U	NR	NR	NR	1800 U	1900 U	NR	NR	760 U	770 U	760 U	NR	NR	NR	NR	NR	NR
2,4-Dimethylphenol	105-67-9	ug/Kg	10000000	32000	87000	1800 U	1800 U	1800 U	NR	NR	NR	1800 U	1900 U	NR	NR	760 U	770 U	760 U	NR	NR	NR	NR	NR	NR
2,4-Dichlorophenol	120-83-2	ug/Kg	9600000	1000	1000	160 J	1800 U	1800 U	NR	NR	NR	1800 U	1900 U	NR	NR	760 U	770 U	760 U	NR	NR	NR	NR	NR	NR
4-Chloro-3-methylphenol	59-50-7	ug/Kg	19000000	NS	NS	1800 U	1800 U	1800 U	NR	NR	NR	1800 U	1900 U	NR	NR	760 U	770 U	760 U	NR	NR	NR	NR	NR	NR
2,4,6-Trichlorophenol	88-06-2	ug/Kg	3200000	3100	8900	1800 U	1800 U	1800 U	NR	NR	NR	1800 U	1900 U	NR	NR	760 U	770 U	760 U	NR	NR	NR	NR	NR	NR
2,4,5-Trichlorophenol	95-95-4	ug/Kg	19000000	2300000	6100000	1800 U	1800 U	1800 U	NR	NR	NR	1800 U	1900 U	NR	NR	760 U	770 U	760 U	NR	NR	NR	NR	NR	NR
2,4-Dinitrophenol	51-28-5	ug/Kg	6400000	210	460	5500 U	5600 U	5500 U	NR	NR	NR	5600 U	5600 U	NR	NR	2300 U	2300 U	2300 U	NR	NR	NR	NR	NR	NR
4-Nitrophenol	100-02-7	ug/Kg	26000000	4100	4100	5500 U	5600 U	5500 U	NR	NR	NR	5600 U	5600 U	NR	NR	2300 U	2300 U	2300 U	NR	NR	NR	NR	NR	NR
4,6-Dinitro-2-methylphenol	534-52-1	ug/Kg	260000	NS	NS	5500 U	5600 U	5500 U	NR	NR	NR	5600 U	5600 U	NR	NR	2300 U	2300 U	2300 U	NR	NR	NR	NR	NR	NR
Pentachlorophenol	87-86-5	ug/Kg	230000	5000	5000	5500 U	5600 U	5500 U	NR	NR	NR	5600 U	5600 U	NR	NR	2300 U	2300 U	2300 U	NR	NR	NR	NR	NR	NR
bis(2-Chloroethyl)ether	111-44-4	ug/Kg	6700	3.9	17	180 U	180 U	180 U	NR	NR	NR	180 U	190 U	NR	NR	76 U	77 U	76 U	NR	NR	NR	NR	NR	NR
1,3-Dichlorobenzene	541-73-1	ug/Kg	10000000	61000	61000	1800 U	1800 U	1800 U	NR	NR	NR	1800 U	1900 U	NR	NR	760 U	770 U	760 U	NR	NR	NR	NR	NR	NR
1,4-Dichlorobenzene	106-46-7	ug/Kg	200000	10000	10000	1800 U	1800 U	1800 U	NR	NR	NR	1800 U	1900 U	NR	NR	760 U	770 U	760 U	NR	NR	NR	NR	NR	NR
1,2-Dichlorobenzene	95-50-1	ug/Kg	10000000	59000	59000	1800 U	1800 U	1800 U	NR	NR	NR	1800 U	1900 U	NR	NR	760 U	770 U	760 U	NR	NR	NR	NR	NR	NR
bis(2-chloroisopropyl)ether	108-60-1	ug/Kg	220000	8000	8000	1800 U	1800 U	1800 U	NR	NR	NR	1800 U	1900 U	NR	NR	760 U	770 U	760 U	NR	NR	NR	NR	NR	NR
N-Nitroso-di-n-propylamine	621-64-7	ug/Kg	13000	1.3	5.1	180 U	180 U	180 U	NR	NR	NR	180 U	190 U	NR	NR	76 U	77 U	76 U	NR	NR	NR	NR	NR	NR
Hexachloroethane	67-72-1	ug/Kg	220000	560	560	180 U	180 U	180 U	NR	NR	NR	180 U	190 U	NR	NR	76 U	77 U	76 U	NR	NR	NR	NR	NR	NR
Nitrobenzene	98-95-3	ug/Kg	6400000	790	2200	180 U	180 U	180 U	NR	NR	NR	180 U	190 U	NR	NR	76 U	77 U	76 U	NR	NR	NR	NR	NR	NR
Isophorone	78-59-1	ug/Kg	10000000	1900	1900	1800 U	1800 U	1800 U	NR	NR	NR	1800 U	1900 U	NR	NR	760 U	770 U	760 U	NR	NR	NR	NR	NR	NR
bis(2-Chloroethoxy)methane	111-91-1	ug/Kg	9600000	NS	NS	1800 U	1800 U	1800 U	NR	NR	NR	1800 U	1900 U	NR	NR	760 U	770 U	760 U	NR	NR	NR	NR	NR	NR
1,2,4-Trichlorobenzene	120-82-1	ug/Kg	3100000	27000	27000	180 U	180 U	180 U	NR	NR	NR	180 U	190 U	NR	NR	76 U	77 U	76 U	NR	NR	NR	NR	NR	NR
Naphthalene	91-20-3	ug/Kg	760000	25000	25000	1800 U	540 J	1800 U	NR	NR	NR	1800 U	1900 U	NR	NR	760 U	770 U	170 J	NR	NR	NR	NR	NR	NR
4-Chloroaniline	106-47-8	ug/Kg	460000	19000	52000	1800 U	1800 U	1800 U	NR	NR	NR	1800 U	1900 U	NR	NR	760 U	770 U	760 U	NR	NR	NR	NR	NR	NR
Hexachlorobutadiene</																								

Table 5
Summary of Crushed Concrete and Brick Samples
Addendum to the Combined Report
Rohm and Haas Chemicals LLC Philadelphia Plant

Sample ID Lab Sample Number	CASRN	Units	Non-Residential Direct Contact 0' - 2'	Clean Fill Standard	Regulated Fill Standard	Precious Metals Recovery / Multi Products Area (R6 and R10 Buildings)										Research Lab / Admin Area (Buildings 60 and 70)							
						DP2-A 942441 08/13/2008 SOLID	DP2-B 942442 08/13/2008 SOLID	DP2-C 942443 08/13/2008 SOLID	DP2-5 942444 08/13/2008 SOLID	DP2-11 942445 08/13/2008 SOLID	DP2-12 942446 08/13/2008 SOLID	DP3-A 942447 08/13/2008 SOLID	DP3-B 942448 08/13/2008 SOLID	DP3-5 942449 08/13/2008 SOLID	DP3-6 942450 08/13/2008 SOLID	DP4-A 952003 09/16/2008 SOLID	DP4-B 952004 09/16/2008 SOLID	DP4-C 952005 09/16/2008 SOLID	DP4-4 952006 09/16/2008 SOLID	DP4-6 952007 09/16/2008 SOLID	DP4-9 952008 09/16/2008 SOLID		
HERBICIDES																							
2,4-D	94-75-7	ug/Kg	32000000	1800	1800	18 U	18 U	18 U	NR	NR	NR	19 U	19 U	NR	NR	19 U	19 U	19 U	NR	NR	NR	NR	NR
2,4,5-TP (Silvex)	93-72-1	ug/Kg	26000000	22000	22000	18 U	18 U	18 U	NR	NR	NR	19 U	19 U	NR	NR	19 U	19 U	19 U	NR	NR	NR	NR	NR
2,4,5-T	93-76-5	ug/Kg	32000000	1500	1500	18 U	18 U	18 U	NR	NR	NR	19 U	19 U	NR	NR	19 U	19 U	19 U	NR	NR	NR	NR	NR
PCBs																							
Aroclor-1016	12674-11-2	ug/Kg	46000	15000	200000	74 U	75 U	73 U	NR	NR	NR	75 U	75 U	NR	NR	76 U	77 U	76 U	NR	NR	NR	NR	NR
Aroclor-1221	11104-28-2	ug/Kg	46000	630	2500	74 U	75 U	73 U	NR	NR	NR	75 U	75 U	NR	NR	76 U	77 U	76 U	NR	NR	NR	NR	NR
Aroclor-1232	11141-16-5	ug/Kg	46000	500	2000	74 U	75 U	73 U	NR	NR	NR	75 U	75 U	NR	NR	76 U	77 U	76 U	NR	NR	NR	NR	NR
Aroclor-1242	53469-21-9	ug/Kg	46000	16000	62000	74 U	75 U	73 U	NR	NR	NR	75 U	75 U	NR	NR	76 U	77 U	76 U	NR	NR	NR	NR	NR
Aroclor-1248	12672-29-6	ug/Kg	46000	9900	44000	74 U	75 U	73 U	NR	NR	NR	75 U	75 U	NR	NR	76 U	77 U	76 U	NR	NR	NR	NR	NR
Aroclor-1254	11097-69-1	ug/Kg	46000	4400	44000	74 U	75 U	73 U	NR	NR	NR	75 U	75 U	NR	NR	1400	1200	1300	NR	NR	NR	NR	NR
Aroclor-1260	11096-82-5	ug/Kg	46000	30000	130000	74 U	75 U	73 U	NR	NR	NR	75 U	75 U	NR	NR	76 U	77 U	76 U	NR	NR	NR	NR	NR
Aroclor-1262	37324-23-5	ug/Kg	NS	NS	NS	74 U	75 U	73 U	NR	NR	NR	75 U	75 U	NR	NR	76 U	77 U	76 U	NR	NR	NR	NR	NR
Aroclor-1268	11100-14-4	ug/Kg	NS	NS	NS	74 U	75 U	73 U	NR	NR	NR	75 U	75 U	NR	NR	76 U	77 U	76 U	NR	NR	NR	NR	NR
PESTICIDES																							
Aldrin	309-00-2	ug/Kg	5400	100	440	1500 U	1500 U	730 U	NR	NR	NR	1500 U	750 U	NR	NR	76 U	77 U	150 U	NR	NR	NR	NR	NR
alpha-BHC	319-84-6	ug/Kg	14000	46	190	1500 U	1500 U	730 U	NR	NR	NR	1500 U	750 U	NR	NR	76 U	77 U	150 U	NR	NR	NR	NR	NR
beta-BHC	319-85-7	ug/Kg	51000	220	820	1500 U	1500 U	730 U	NR	NR	NR	1500 U	750 U	NR	NR	76 U	77 U	150 U	NR	NR	NR	NR	NR
delta-BHC	319-86-8	ug/Kg	NS	11000	30000	1500 U	1500 U	730 U	NR	NR	NR	1500 U	750 U	NR	NR	76 U	77 U	150 U	NR	NR	NR	NR	NR
gamma-BHC (Lindane)	58-89-9	ug/Kg	83000	72	72	1500 U	1500 U	730 U	NR	NR	NR	1500 U	750 U	NR	NR	76 U	77 U	150 U	NR	NR	NR	NR	NR
Chlordane	57-74-9	ug/Kg	260000	49000	49000	15000 U	15000 U	7300 U	NR	NR	NR	15000 U	7500 U	NR	NR	760 U	770 U	1500 U	NR	NR	NR	NR	NR
4,4'-DDD	72-54-8	ug/Kg	380000	6800	30000	1500 U	1500 U	730 U	NR	NR	NR	1500 U	1100 P*	NR	NR	440 P*	660 P*	1100 P*	NR	NR	NR	NR	NR
4,4'-DDE	72-55-9	ug/Kg	270000	41000	170000	37000	38000	23000	NR	NR	NR	42000	26000	NR	NR	3100	3200	6100	NR	NR	NR	NR	NR
4,4'-DDT	50-29-3	ug/Kg	270000	53000	230000	1500 U	1500 U	730 U	NR	NR	NR	1500 U	750 U	NR	NR	270 P*	200 P*	300 P*	NR	NR	NR	NR	NR
Dieldrin	60-57-1	ug/Kg	6000	110	440	1500 U	1500 U	730 U	NR	NR	NR	1500 U	750 U	NR	NR	76 U	77 U	150 U	NR	NR	NR	NR	NR
Endosulfan I	959-98-8	ug/Kg	1900000	110000	260000	1500 U	1500 U	730 U	NR	NR	NR	1500 U	750 U	NR	NR	76 U	77 U	150 U	NR	NR	NR	NR	NR
Endosulfan II	33213-65-9	ug/Kg	1900000	130000	260000	1500 U	1500 U	730 U	NR	NR	NR	1500 U	750 U	NR	NR	76 U	77 U	150 U	NR	NR	NR	NR	NR
Endosulfan sulfate	1031-07-8	ug/Kg	1900000	70000	70000	1500 U	1500 U	730 U	NR	NR	NR	1500 U	750 U	NR	NR	76 U	77 U	150 U	NR	NR	NR	NR	NR
Endrin	72-20-8	ug/Kg	960000	5500	5500	1500 U	1500 U	730 U	NR	NR	NR	1500 U	750 U	NR	NR	76 U	77 U	150 U	NR	NR	NR	NR	NR
Endrin aldehyde	7421-93-4	ug/Kg	NS	NS	NS	1500 U	1500 U	730 U	NR	NR	NR	1500 U	750 U	NR	NR	76 U	77 U	150 U	NR	NR	NR	NR	NR
Heptachlor	76-44-8	ug/Kg	20000	680	680	1500 U	1500 U	730 U	NR	NR	NR	1500 U	750 U	NR	NR	76 U	77 U	150 U	NR	NR	NR	NR	NR
Heptachlor epoxide	1024-57-3	ug/Kg	10000	1100	1100	15000 U	15000 U	7300 U	NR	NR	NR	15000 U											

Notes:

340	U	- Reporting limit exceeds either the clean fill or regulated fill standard
160		- Result exceeds only the clean fill standard
517		- Results exceeds both the clean fill and regulated fill standards
NS		- No standard
NR		- Analysis not requested

Clean Fill Standards Reference - PADEP Management of Fill April 24, 2004

Qualifiers:

- U - The compound was not detected at the indicated concentration.
- J - Data indicates the presence of a compound that meets the identification criteria. The result is less than the quantitation limit but greater than zero. The concentration given is an approximate value.
- B - The analyte was found in the laboratory blank as well as the sample. This indicates possible laboratory contamination of the environmental sample.
- P - For dual column analysis, the percent difference between the quantitated concentrations on the two columns is greater than 40%
- * - For dual column analysis, the lowest quantitated concentration is being reported due to coeluting interference.

Metals Qualifier:

- B - Reported value is less than the Reporting Limit but greater than the Instrument Detection Limit.

Table 6
Summary of Crushed Concrete and Brick Samples - SPLP Results
Addendum to the Combined Report
Rohm and Haas Chemicals LLC Philadelphia Plant

Sample ID Lab Sample Number Sampling Date Matrix Dilution Factor	CASRN	Units	Non-Used, Non-Residential Aquifer Groundwater	Buildings 9, 80, 17, 6A, 6B, 6F, 86, 24, and 30								R11 and R12		R6 and R10 Buildings	
				SP-1 746609 04/20/06 SOLID 1	MP-1 746611 04/20/06 SOLID 1.0	MP-2 746612 04/20/06 SOLID 1.0	MP-3 746613 04/20/06 SOLID 1.0	MP-4 746610 04/20/06 SOLID 1.0	MP-5 746608 04/20/06 SOLID 1.0	MP-6 746614 04/20/06 SOLID 1.0	DP1-E 913026 03/20/08 SOLID 1	DP2-B 942442 08/13/08 SOLID 10	DP3-A 942447 08/13/08 SOLID 1		
SPLP VOLATILE COMPOUNDS (GC/MS) Tetrachloroethene	127-18-4	ug/L	50	NR	NR	NR	NR	NR	NR	NR	NR	NR	10	U	NR
SPLP SEMIVOLATILE COMPOUNDS (GC/MS) Benzo(a)pyrene	50-32-8	ug/L	3.8	2.5	U	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
SPLP PESTICIDES alpha-BHC gamma-BHC (Lindane) 4,4'-DDD 4,4'-DDE	319-84-6 58-89-9 72-54-8 72-55-9	ug/L	410 200 160 40	NR 0.083 0.083 NR	0.061 U U NR	0.05 NR NR NR	0.05 NR NR NR	0.05 NR NR NR	0.05 NR NR NR	0.05 NR NR NR	NR NR NR NR	NR NR NR 0.45 P*	NR NR NR NR	NR NR NR 0.056 U	
SPLP METALS Lead	7439-92-1	ug/L	5000	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

Notes:

Buildings 9, 80, 17, 6A, 6B, 6F, 86, 24, and 30 - Ion Exchange Resins / Machine Shop / Tritons Manufacturing

R11 and R12 Buildings - Ion Exchange Resins / Multi Products Area

R6 and R10 Buildings - Precious Metals Recovery / Multi Products Area

Non-Used, Non-Residential Aquifer Groundwater Standard = PADEP Medium Specific Concentrations for Regulated Substances in Groundwater, Non-Used Aquifer, TDS < 2500, Non-Residential as of December 2004
 Qualifiers

U - The compound was not detected at the indicated concentration.

NR - Not analyzed.

P - For dual column analysis, the percent difference between the quantitated concentrations on the two columns is greater than 40%

* - For dual column analysis, the lowest quantitated concentration is being reported due to coeluting interference.

Metals Qualifier:

B - Reported value is less than the Reporting Limit but greater than the Instrument Detection Limit.

Table 18
Former West Production Area: Soil Gas Analytical Results - Rounds 1 and 2
Act 2 Soil Remedial Investigation Report
Rohm and Haas Chemicals LLC Philadelphia Plant

Location	CAS NO	1/10 Non-Residential Near-Source Soil Gas Statewide Health Standard Vapor Intrusion SV ($\mu\text{g}/\text{m}^3$)	VP-20	VP-20	VP-21	VP-21	VP-22	VP-22	VP-23	VP-23	VP-24	VP-24
			2/26/2009	3/24/2009	2/27/2009	3/16/2009	2/27/2009	3/16/2009	2/27/2009	3/24/2009	3/4/2009	3/24/2009
Sample Date	Groundwater Level (feet bgs)	2	2	4	4	4.5	4.5	4	4	5	5	5
TO15 Volatile Organic Compounds ($\mu\text{g}/\text{m}^3$)												
1,1,1,2-TETRACHLOROETHANE	630-20-6	1700	210	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-TRICHLOROETHANE	71-55-6	2200000	280000	1,100	820	U < 8.2	U < 13	U < 330	U < 110	U < 34,000	U < 17,000	U < 5.5
1,1,2,2-TETRACHLOROETHANE	79-34-5	210	27	U < 11	U < 10	U < 10	U < 16	U < 420	U < 140	U < 43,000	U < 21,000	U < 6.9
1,1,2-TRICHLOROETHANE	79-00-5	88	11	U < 8.7	U < 8.2	U < 8.2	U < 13	U < 330	U < 110	U < 34,000	U < 17,000	U < 5.5
1,1-DICHLOROETHANE	75-34-3	7700	980	49	49	U < 6.1	U < 9.7	U < 250	U < 81	U < 25,000	U < 13,000	U < 4
1,1-DICHLOROETHENE	75-35-4	88000	11000	U < 6.3	U < 5.9	U < 5.9	U < 9.5	U < 240	99	U < 25,000	U < 12,000	U < 4
1,2,3-TRICHLOROPROPANE	96-18-4	130	17	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-TRIMETHYLBENZENE	95-63-6	3100	390	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-DIBROMOETHANE	106-93-4	20	2.6	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-DICHLOROBENZENE	95-50-1	88000	11000	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-DICHLOROETHANE	107-06-2	470	61	U < 6.5	U < 6.1	810	210	U < 250	97	U < 25,000	U < 13,000	89
1,2-DICHLOROETHENE, CIS	156-59-2	NS	NS	U < 6.3	U < 5.9	48	37	2,700	2,000	U < 25,000	U < 12,000	U < 4
1,2-DICHLOROETHENE, TRANS	156-60-5	26000	3400	U < 6.3	U < 5.9	13	15	U < 240	U < 79	U < 25,000	U < 12,000	U < 4
1,2-DICHLOROPROPANE	78-87-5	1200	160	U < 7.4	U < 6.9	17	U < 11	U < 280	310	U < 29,000	U < 14,000	< 4.6
1,3-DICHLOROPROPENE	542-75-6	3100	390	U < 7.3	U < 6.8	U < 6.8	U < 11	U < 280	U < 91	U < 28,000	U < 14,000	< 4.5
1,3,5-TRIMETHYLBENZENE	108-67-8	3100	390	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-BUTADIENE	106-99-0	410	52	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-DICHLOROBENZENE	106-46-7	1100	140	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-BUTANONE	78-93-3	2200000	280000	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-HEXANONE	591-78-6	13000	1700	U < 16	U < 16	U < 16	U < 25	U < 610	U < 200	U < 61,000	U < 32,000	U < 10
3-CHLOROPROPENE	107-05-1	440	56	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-ETHYLtolUENE	622-96-8	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-METHYL-2-PENTANONE	108-10-1	1300000	170000	NA	NA	NA	NA	NA	NA	NA	NA	NA
ACETONE	67-64-1	14000000	1700000	U < 93	U < 90	110	U < 140	U < 3,600	U < 1,200	U < 360,000	U < 180,000	U < 59
BENZENE	71-43-2	1600	200	U < 5.1	U < 4.8	U < 4.8	U < 7.7	U < 190	U < 64	U < 20,000	18,000	6.4
BROMOBENZENE	108-86-1	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA
BROMODICHLOROMETHANE	75-27-4	330	43	U < 11	U < 10	U < 10	U < 16	U < 410	U < 130	U < 42,000	U < 21,000	U < 6.7
BROMOFORM	75-25-2	11000	1400	U < 17	U < 16	U < 16	U < 25	U < 630	U < 210	U < 64,000	U < 32,000	U < 10
BROMOMETHANE	74-83-9	2200	280	U < 6.2	U < 5.8	U < 5.8	U < 9.3	U < 240	U < 78	U < 24,000	U < 12,000	U < 3.9
CARBON DISULFIDE	75-15-0	310000	39000	26	37	59	47	U < 470	U < 160	U < 47,000	40,000	40
CARBON TETRACHLORIDE	56-23-5	2000	260	U < 10	U < 9.4	U < 9.4	U < 15	3,100	U < 130	60,000	U < 20,000	U < 6.3
CHLOROBENZENE	108-90-7	22000	2800	U < 7.4	U < 6.9	U < 6.9	U < 11	640	U < 92	U < 29,000	U < 14,000	< 4.6
CHLORODIFLUOROMETHANE	75-45-6	22000000	2800000	NA	NA	NA	NA	NA	NA	NA	NA	NA
CHLOROETHANE	75-00-3	4400000	560000	U < 10	U < 10	U < 10	U < 16	U < 400	U < 130	U < 40,000	U < 20,000	U < 6.6
CHLOROFORM	67-66-3	530	68	13	11	32	35	U < 300	130	U < 30,000	U < 15,000	U < 4.9
CHLOROMETHANE	74-87-3	6800	870	U < 8.1	U < 7.8	U < 8.1	U < 13	U < 310	U < 100	U < 31,000	U < 16,000	< 5.2
CUMENE	98-82-8	180000	22000	NA	NA	NA	NA	NA	NA	NA	NA	NA
DIBROMOCHLOROMETHANE	124-48-1	450	58	U < 14	U < 13	U < 13	U < 20	U < 520	U < 170	U < 53,000	U < 26,000	U < 8.5
DIBROMOMETHANE	74-95-3	1800	220	NA	NA	NA	NA	NA	NA	NA	NA	NA
DICHLORODIFLUOROMETHANE	75-71-8	44000	5600	NA	NA	NA	NA	NA	NA	NA	NA	NA
DICHLOROFLUOROMETHANE	75-43-4	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA
ETHYLBENZENE	100-41-4	4900	630	U < 6.9	U < 6.5	U < 6.5	U < 10	U < 260	U < 87	U < 27,000	U < 13,000	6.1
												22

Table 18
Former West Production Area: Soil Gas Analytical Results - Rounds 1 and 2
Act 2 Soil Remedial Investigation Report
Rohm and Haas Chemicals LLC Philadelphia Plant

Location	CAS NO	1/10 Non-Residential Near-Source Soil Gas Statewide Health Standard Vapor Intrusion SV ($\mu\text{g}/\text{m}^3$)	VP-20	VP-20	VP-21	VP-21	VP-22	VP-22	VP-23	VP-23	VP-24	VP-24
Sample Date			2/26/2009	3/24/2009	2/27/2009	3/16/2009	2/27/2009	3/16/2009	2/27/2009	3/24/2009	3/4/2009	3/24/2009
Groundwater Level (feet bgs)			2	2	4	4	4.5	4.5	4	4	5	5
TO15 Volatile Organic Compounds ($\mu\text{g}/\text{m}^3$)												
FREON 113	76-13-1	13000000	1700000	NA	NA	NA	NA	NA	NA	NA	NA	NA
FREON 114	76-14-2	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA
HELIUM	7440-59-7	NS	NS	U < 2.2	U < 2.6	U < 2.3	U < 2.1	U < 2.5	U < 2.2	U < 2.5	U < 2.1	U < 2.2
HEPTANE	142-82-5	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA
HEXACHLOROETHANE	67-72-1	1200	160	NA	NA	NA	NA	NA	NA	NA	NA	NA
HEXANE	110-54-3	310000	39000	NA	NA	NA	NA	NA	NA	NA	NA	NA
ISOOCTANE	540-84-1	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA
METHYL ETHYL KETONE (2-BUTANONE)	78-93-3	2200000	280000	U < 12	U < 11	U < 12	U < 18	U < 440	U < 150	U < 44,000	U < 23,000	U < 7.4
METHYL ISOBUTYL KETONE (4-METHYL-2-PENTANONE)	108-10-1	1300000	170000	U < 16	U < 16	U < 16	U < 25	U < 610	U < 200	U < 61,000	U < 32,000	U < 10
METHYL T-BUTYL ETHER	1634-04-4	47000	6100	NA	NA	NA	NA	NA	NA	NA	NA	NA
METHYLENE CHLORIDE	75-09-2	260000	34000	U < 14	U < 13	U < 14	U < 21	U < 520	U < 170	U < 52,000	U < 27,000	U < 8.7
OCTANE	111-65-9	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA
PENTANE	109-66-0	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA
STYRENE	100-42-5	440000	56000	U < 6.8	U < 6.4	U < 6.4	U < 10	U < 260	U < 85	U < 26,000	U < 13,000	U < 4.3
TETRACHLOROETHENE (PCE)	127-18-4	18000	2200	U < 11	U < 10	50	57	66,000	18,000	U < 42,000	U < 21,000	U < 6.8
TOLUENE	108-88-3	2200000	280000	18	33	16	12	980	75	4,100,000	2,000,000	68
TRICHLOROETHENE (TCE)	79-01-6	880	110	U < 8.6	U < 8.1	15	15	1,300	1,000	U < 33,000	U < 17,000	U < 5.4
TRICHLOROFLUOROMETHANE	75-69-4	310000	39000	NA	NA	NA	NA	NA	NA	NA	NA	NA
VINYL CHLORIDE	75-01-4	1400	170	U < 4.1	U < 3.8	7.9	U < 6.1	1,500	460	U < 16,000	U < 7,900	36
XYLENES (TOTAL)	1330-20-7	44000	5600	U < 6.9	19	U < 6.5	U < 10	430	U < 87	U < 27,000	U < 13,000	20.8
												83

Notes:

All samples analyzed via Method TO15.

All VOC results in micrograms per cubic meter ($\mu\text{g}/\text{m}^3$). All Helium results in %v/v.

Vapor Intrusion SV = Vapor Intrusion Screening Value from PADEP (January 2017)

NA - Not Analyzed

NS = No Screening Value

RDL = Reporting Detection Limit.

U = Not detected above the RDL shown.

J = Result is estimated.

Bolded value exceeds 1/10 Non-Residential Sub-Slab or Near-Source Soil Gas SHS Vapor Intrusion Screening Values ($\mu\text{g}/\text{m}^3$)

Table 18
Former West Production Area: Soil Gas Analytical Results - Rounds 1 and 2
Act 2 Soil Remedial Investigation Report
Rohm and Haas Chemicals LLC Philadelphia Plant

Location	CAS NO	1/10 Non-Residential Near-Source Soil Gas Statewide Health Standard	1/10 Non-Residential Sub-Slab Soil Gas Statewide Health Standard	VP-25	VP-25	VP-25 Field Duplicate	VP-26	VP-26	VP-27	VP-27	VP-28	VP-28
				3/4/2009	3/24/2009	3/24/2009	3/4/2009	3/24/2009	3/4/2009	3/16/2009	3/4/2009	3/24/2009
Groundwater Level (feet bgs)		Vapor Intrusion SV ($\mu\text{g}/\text{m}^3$)		7	7	7	6.5	6.5	6	6	4	4
TO15 Volatile Organic Compounds ($\mu\text{g}/\text{m}^3$)												
1,1,1,2-TETRACHLOROETHANE	630-20-6	1700	210	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-TRICHLOROETHANE	71-55-6	2200000	280000	3,900	U < 11,000	U < 13,000	50	49	U < 4,800	U < 4,000	U < 160	U < 100
1,1,2,2-TETRACHLOROETHANE	79-34-5	210	27	U < 3,200	U < 14,000	U < 16,000	U < 6.8	U < 6.9	U < 6,000	U < 5,000	U < 210	U < 130
1,1,2-TRICHLOROETHANE	79-00-5	88	11	U < 2,500	U < 11,000	U < 13,000	U < 5.4	U < 5.5	U < 4,800	U < 4,000	U < 160	U < 100
1,1-DICHLOROETHANE	75-34-3	7700	980	7,700	U < 8,100	U < 9,300	5.3	6.5	U < 3,600	U < 3,000	270	400
1,1-DICHLOROETHENE	75-35-4	88000	11000	4,400	U < 7,900	U < 9,100	U < 3.9	U < 4	U < 3,500	U < 2,900	U < 120	U < 75
1,2,3-TRICHLOROPROPANE	96-18-4	130	17	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-TRIMETHYLBENZENE	95-63-6	3100	390	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-DIBROMOETHANE	106-93-4	20	2.6	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-DICHLOROBENZENE	95-50-1	88000	11000	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-DICHLOROETHANE	107-06-2	470	61	U < 1,900	U < 8,100	U < 9,300	11	45	U < 3,600	U < 3,000	1,100	2,100
1,2-DICHLOROETHENE, CIS	156-59-2	NS	NS	2,200	U < 7,900	U < 9,100	U < 3.9	U < 4	400,000	380,000	170	270
1,2-DICHLOROETHENE, TRANS	156-60-5	26000	3400	U < 1,800	U < 7,900	U < 9,100	U < 3.9	U < 4	5,900	6,300	U < 120	79
1,2-DICHLOROPROPANE	78-87-5	1200	160	U < 2,100	U < 9,200	U < 11,000	U < 4.6	U < 4.6	U < 4,100	U < 3,400	U < 140	U < 88
1,3-DICHLOROPROPENE	542-75-6	3100	390	U < 2,100	U < 9,100	U < 10,000	U < 4.5	U < 4.5	U < 4,000	U < 3,300	U < 140	U < 86
1,3,5-TRIMETHYLBENZENE	108-67-8	3100	390	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-BUTADIENE	106-99-0	410	52	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-DICHLOROBENZENE	106-46-7	1100	140	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-BUTANONE	78-93-3	2200000	280000	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-HEXANONE	591-78-6	13000	1700	U < 4,900	U < 21,000	U < 24,000	U < 10	U < 10	U < 9,000	U < 7,400	U < 310	U < 190
3-CHLOROPROPENE	107-05-1	440	56	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-ETHYLTOLUENE	622-96-8	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-METHYL-2-PENTANONE	108-10-1	1300000	170000	NA	NA	NA	NA	NA	NA	NA	NA	NA
ACETONE	67-64-1	14000000	1700000	U < 29,000	U < 120,000	U < 140,000	U < 59	59	U < 52,000	U < 43,000	U < 1,800	U < 1,100
BENZENE	71-43-2	1600	200	U < 1,500	U < 6,400	U < 7,300	3.8	4.2	U < 2,800	U < 2,300	U < 96	U < 61
BROMOBENZENE	108-86-1	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA
BROMODICHLOROMETHANE	75-27-4	330	43	U < 3,100	U < 13,000	U < 15,000	U < 6.6	U < 6.7	U < 5,900	U < 4,900	U < 200	U < 130
BROMOFORM	75-25-2	11000	1400	U < 4,800	U < 21,000	U < 24,000	U < 10	U < 10	U < 9,100	U < 7,500	U < 310	U < 200
BROMOMETHANE	74-83-9	2200	280	U < 1,800	U < 7,800	U < 8,900	U < 3.8	U < 3.9	U < 3,400	U < 2,800	U < 120	U < 74
CARBON DISULFIDE	75-15-0	310000	39000	U < 3,700	U < 16,000	U < 18,000	U < 7.8	U < 7.8	U < 6,900	U < 5,600	U < 230	U < 140
CARBON TETRACHLORIDE	56-23-5	2000	260	U < 2,900	U < 13,000	U < 14,000	U < 6.2	75	U < 5,500	U < 4,600	U < 190	U < 120
CHLOROBENZENE	108-90-7	22000	2800	21,000	U < 9,200	U < 11,000	U < 4.6	U < 4.6	U < 4,100	U < 3,400	U < 140	92
CHLORODIFLUOROMETHANE	75-45-6	22000000	2800000	NA	NA	NA	NA	NA	NA	NA	NA	NA
CHLOROETHANE	75-00-3	4400000	560000	U < 3,200	U < 13,000	U < 15,000	U < 6.6	U < 6.6	U < 5,800	U < 4,700	U < 200	U < 120
CHLOROFORM	67-66-3	530	68	U < 2,200	U < 9,800	U < 11,000	540	630	U < 4,300	U < 3,600	200	320
CHLOROMETHANE	74-87-3	6800	870	U < 2,500	U < 11,000	U < 12,000	U < 5.2	U < 5.2	U < 4,500	U < 3,700	U < 150	U < 95
CUMENE	98-82-8	180000	22000	NA	NA	NA	NA	NA	NA	NA	NA	NA
DIBROMOCHLOROMETHANE	124-48-1	450	58	U < 3,900	U < 17,000	U < 20,000	U < 8.4	U < 8.5	U < 7,500	U < 6,200	U < 260	U < 160
DIBROMOMETHANE	74-95-3	1800	220	NA	NA	NA	NA	NA	NA	NA	NA	NA
DICHLORODIFLUOROMETHANE	75-71-8	44000	5600	NA	NA	NA	NA	NA	NA	NA	NA	NA
DICHLOROFLUOROMETHANE	75-43-4	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA
ETHYLBENZENE	100-41-4	4900	630	3,900	U < 8,700	U < 10,000	U < 4.3	120	U < 3,800	U < 3,200	U < 130	U < 83

Table 18
Former West Production Area: Soil Gas Analytical Results - Rounds 1 and 2
Act 2 Soil Remedial Investigation Report
Rohm and Haas Chemicals LLC Philadelphia Plant

Location	CAS NO	1/10 Non-Residential Near-Source Soil Gas Statewide Health Standard	1/10 Non-Residential Sub-Slab Soil Gas Statewide Health Standard	VP-25	VP-25	VP-25 Field Duplicate	VP-26	VP-26	VP-27	VP-27	VP-28	VP-28
Sample Date				3/4/2009	3/24/2009	3/24/2009	3/4/2009	3/24/2009	3/4/2009	3/16/2009	3/4/2009	3/24/2009
Groundwater Level (feet bgs)				7	7	7	6.5	6.5	6	6	4	4
TO15 Volatile Organic Compounds ($\mu\text{g}/\text{m}^3$)												
FREON 113	76-13-1	13000000	1700000	NA	NA	NA	NA	NA	NA	NA	NA	NA
FREON 114	76-14-2	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA
HELIUM	7440-59-7	NS	NS	U < 2.1	U < 2.4	U < 2.2	U < 2.3	U < 2.1	U < 2	U < 2.1	U < 2.3	U < 2.1
HEPTANE	142-82-5	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA
HEXACHLOROETHANE	67-72-1	1200	160	NA	NA	NA	NA	NA	NA	NA	NA	NA
HEXANE	110-54-3	310000	39000	NA	NA	NA	NA	NA	NA	NA	NA	NA
ISOCTANE	540-84-1	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA
METHYL ETHYL KETONE (2-BUTANONE)	78-93-3	2200000	280000	U < 3,500	U < 15,000	U < 17,000	U < 7.4	U < 7.4	U < 6,500	U < 5,300	U < 220	U < 140
METHYL ISOBUTYL KETONE (4-METHYL-2-PENTANONE)	108-10-1	1300000	170000	U < 4,900	U < 21,000	U < 24,000	U < 10	U < 10	U < 9,000	U < 7,400	U < 310	U < 190
METHYL T-BUTYL ETHER	1634-04-4	47000	6100	NA	NA	NA	NA	NA	NA	NA	NA	NA
METHYLENE CHLORIDE	75-09-2	260000	34000	U < 4,200	U < 18,000	U < 20,000	U < 8.7	U < 8.7	U < 7,600	U < 6,300	U < 260	U < 160
OCTANE	111-65-9	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA
PENTANE	109-66-0	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA
STYRENE	100-42-5	440000	56000	U < 2,000	U < 8,500	U < 9,800	U < 4.2	U < 4.3	U < 3,700	U < 3,100	U < 130	U < 81
TETRACHLOROETHENE (PCE)	127-18-4	18000	2200	U < 3,100	U < 14,000	U < 16,000	8.1	24	1,200,000	950,000	U < 200	150
TOLUENE	108-88-3	2200000	280000	2,200	1,100,000	1,200,000	25	120	U < 3,300	U < 2,800	180	290
TRICHLOROETHENE (TCE)	79-01-6	880	110	U < 2,500	U < 11,000	U < 12,000	U < 5.3	U < 5.4	81,000	86,000	160	390
TRICHLOROFLUOROMETHANE	75-69-4	310000	39000	NA	NA	NA	NA	NA	NA	NA	NA	NA
VINYL CHLORIDE	75-01-4	1400	170	U < 1,200	U < 5,100	U < 5,900	U < 2.5	U < 2.6	2,400	U < 1,900	11,000	9,200
XYLENES (TOTAL)	1330-20-7	44000	5600	50,000	27,000	33,000	19.5	580	U < 3,800	U < 3,200	U < 130	U < 83

Notes:

All samples analyzed via Method TO15.

All VOC results in micrograms per cubic meter ($\mu\text{g}/\text{m}^3$). All Helium results in %v/v.

Vapor Intrusion SV = Vapor Intrusion Screening Value from PADEP (January 2017)

NA - Not Analyzed

NS = No Screening Value

RDL = Reporting Detection Limit.

U = Not detected above the RDL shown.

J = Result is estimated.

Bolded value exceeds 1/10 Non-Residential Sub-Slab or Near-Source Soil Gas SHS Vapor Intrusion Screening Values ($\mu\text{g}/\text{m}^3$)

Table 18
Former West Production Area: Soil Gas Analytical Results - Rounds 1 and 2
Act 2 Soil Remedial Investigation Report
Rohm and Haas Chemicals LLC Philadelphia Plant

Location	CAS NO	1/10 Non-Residential Near-Source Soil Gas Statewide Health Standard	1/10 Non-Residential Sub-Slab Soil Gas Statewide Health Standard	VP-29	VP-29	VP-30	VP-30	VP-31	VP-31	VP-32	VP-32	VP-33	VP-33
				3/4/2009	3/24/2009	3/4/2009	3/24/2009	3/5/2009	3/25/2009	3/5/2009	3/25/2009	3/6/2009	3/25/2009
Sample Date	Groundwater Level (feet bgs)	Vapor Intrusion SV ($\mu\text{g}/\text{m}^3$)	2	2	2.5	2.5	5	5	3	3	4	4	4
TO15 Volatile Organic Compounds ($\mu\text{g}/\text{m}^3$)													
1,1,1,2-TETRACHLOROETHANE	630-20-6	1700	210	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-TRICHLOROETHANE	71-55-6	2200000	280000	U < 350	U < 44	U < 60	U < 11	U < 1.1	1.2	U < 11	U < 110	U < 650	U < 650
1,1,2,2-TETRACHLOROETHANE	79-34-5	210	27	U < 440	U < 55	U < 76	U < 14	U < 1.4	U < 1.4	U < 14	U < 140	U < 820	U < 820
1,1,2-TRICHLOROETHANE	79-00-5	88	11	U < 350	U < 44	U < 60	U < 11	U < 1.1	U < 1.1	U < 11	U < 110	U < 650	U < 650
1,1-DICHLOROETHANE	75-34-3	7700	980	U < 260	U < 32	U < 45	U < 8.1	1.1	1.7	U < 8.1	U < 81	U < 490	U < 490
1,1-DICHLOROETHENE	75-35-4	88000	11000	U < 250	U < 32	U < 44	U < 7.9	U < 0.79	U < 0.79	U < 7.9	U < 79	U < 480	U < 480
1,2,3-TRICHLOROPROPANE	96-18-4	130	17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-TRIMETHYLBENZENE	95-63-6	3100	390	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-DIBROMOETHANE	106-93-4	20	2.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-DICHLOROBENZENE	95-50-1	88000	11000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-DICHLOROETHANE	107-06-2	470	61	U < 260	U < 32	U < 45	20	9.3	8.1	U < 8.1	U < 81	U < 490	U < 490
1,2-DICHLOROETHENE, CIS	156-59-2	NS	NS	U < 250	U < 32	5,600	26	12	11	U < 7.9	U < 79	U < 480	U < 480
1,2-DICHLOROETHENE, TRANS	156-60-5	26000	3400	U < 250	U < 32	990	380	U < 0.79	U < 0.79	U < 7.9	U < 79	U < 480	U < 480
1,2-DICHLOROPROPANE	78-87-5	1200	160	U < 300	U < 37	U < 51	U < 9.2	U < 0.92	U < 0.92	U < 9.2	U < 92	U < 550	U < 550
1,3-DICHLOROPROPENE	542-75-6	3100	390	U < 290	U < 36	U < 50	U < 9.1	U < 0.91	U < 0.91	U < 9.1	U < 91	U < 540	U < 540
1,3,5-TRIMETHYLBENZENE	108-67-8	3100	390	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-BUTADIENE	106-99-0	410	52	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-DICHLOROBENZENE	106-46-7	1100	140	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-BUTANONE	78-93-3	2200000	280000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-HEXANONE	591-78-6	13000	1700	U < 660	U < 82	U < 120	U < 20	U < 2	U < 2	U < 20	U < 200	U < 1,200	U < 1300
3-CHLOROPROPENE	107-05-1	440	56	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-ETHYLtolUENE	622-96-8	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-METHYL-2-PENTANONE	108-10-1	1300000	170000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
ACETONE	67-64-1	14000000	1700000	U < 3,800	U < 480	U < 690	U < 120	36	43	U < 120	U < 1,200	U < 6,900	U < 7,400
BENZENE	71-43-2	1600	200	U < 200	U < 26	U < 35	U < 6.4	0.99	0.93	58	140	700	U < 380
BROMOBENZENE	108-86-1	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BROMODICHLOROMETHANE	75-27-4	330	43	U < 430	U < 54	U < 74	U < 13	U < 1.3	U < 1.3	U < 13	U < 130	U < 800	U < 800
BROMOFORM	75-25-2	11000	1400	U < 660	U < 83	U < 110	U < 21	U < 2.1	U < 2.1	U < 21	U < 210	U < 1,200	U < 1,200
BROMOMETHANE	74-83-9	2200	280	U < 250	U < 31	U < 43	U < 7.8	U < 0.78	U < 0.78	U < 7.8	U < 78	U < 470	U < 470
CARBON DISULFIDE	75-15-0	310000	39000	U < 500	84	U < 90	U < 16	4.4	5	340	470	U < 900	U < 970
CARBON TETRACHLORIDE	56-23-5	2000	260	U < 400	U < 50	U < 69	U < 13	U < 1.3	U < 1.3	U < 13	U < 130	U < 750	U < 750
CHLOROBENZENE	108-90-7	22000	2800	U < 290	U < 37	U < 51	U < 9.2	U < 0.92	2.7	19	U < 92	U < 550	U < 550
CHLORODIFLUOROMETHANE	75-45-6	22000000	2800000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CHLOROETHANE	75-00-3	4400000	560000	U < 420	U < 53	U < 77	U < 13	U < 1.3	U < 1.3	U < 13	U < 130	U < 770	U < 820
CHLOROFORM	67-66-3	530	68	U < 310	U < 39	U < 54	33	12	16	U < 9.8	U < 98	U < 590	U < 590
CHLOROMETHANE	74-87-3	6800	870	U < 330	U < 41	U < 60	U < 10	U < 1	U < 1	U < 10	U < 100	U < 600	U < 640
CUMENE	98-82-8	180000	22000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DIBROMOCHLOROMETHANE	124-48-1	450	58	U < 550	U < 68	U < 94	U < 17	U < 1.7	U < 1.7	U < 17	U < 170	U < 1,000	U < 1,000
DIBROMOMETHANE	74-95-3	1800	220	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DICHLORODIFLUOROMETHANE	75-71-8	44000	5600	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DICHLOROFLUOROMETHANE	75-43-4	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
ETHYLBENZENE	100-41-4	4900	630	23,000	560	U < 48	13	1.5	1.2	U < 8.7	560	U < 520	U < 520

Table 18
Former West Production Area: Soil Gas Analytical Results - Rounds 1 and 2
Act 2 Soil Remedial Investigation Report
Rohm and Haas Chemicals LLC Philadelphia Plant

Location	CAS NO	1/10 Non-Residential Near-Source Soil Gas Statewide Health Standard Vapor Intrusion SV ($\mu\text{g}/\text{m}^3$)	1/10 Non-Residential Sub-Slab Soil Gas Statewide Health Standard Vapor Intrusion SV ($\mu\text{g}/\text{m}^3$)	VP-29	VP-29	VP-30	VP-30	VP-31	VP-31	VP-32	VP-32	VP-33	VP-33
				3/4/2009	3/24/2009	3/4/2009	3/24/2009	3/5/2009	3/25/2009	3/5/2009	3/25/2009	3/6/2009	3/25/2009
Sample Date	Groundwater Level (feet bgs)	2	2	2.5	2.5	5	5	3	3	4	4		
TO15 Volatile Organic Compounds ($\mu\text{g}/\text{m}^3$)													
FREON 113	76-13-1	13000000	1700000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
FREON 114	76-14-2	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
HELIUM	7440-59-7	NS	NS	U < 2.1	U < 2	U < 2.3	U < 2.2	U < 2	U < 2.5	U < 2.3	U < 2.3	U < 2.1	U < 2.1
HEPTANE	142-82-5	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
HEXACHLOROETHANE	67-72-1	1200	160	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
HEXANE	110-54-3	310000	39000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
ISOOCTANE	540-84-1	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
METHYL ETHYL KETONE (2-BUTANONE)	78-93-3	2200000	280000	U < 470	U < 59	U < 86	U < 15	5.6	7.4	U < 15	U < 150	U < 860	U < 910
METHYL ISOBUTYL KETONE (4-METHYL-2-PENTANONE)	108-10-1	1300000	170000	U < 660	U < 82	U < 120	U < 20	U < 2	U < 2	U < 20	U < 200	U < 1,200	U < 1,300
METHYL T-BUTYL ETHER	1634-04-4	47000	6100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
METHYLENE CHLORIDE	75-09-2	260000	34000	U < 560	U < 69	100	63	U < 1.7	U < 1.7	U < 17	U < 170	U < 1,000	U < 1,100
OCTANE	111-65-9	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PENTANE	109-66-0	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
STYRENE	100-42-5	440000	56000	U < 270	U < 34	U < 47	U < 8.5	2.8	U < 0.85	U < 8.5	U < 85	U < 510	U < 510
TETRACHLOROETHENE (PCE)	127-18-4	18000	2200	U < 430	U < 54	U < 75	46	27	12	U < 14	U < 140	U < 810	U < 810
TOLUENE	108-88-3	2200000	280000	38,000	5,700	5,300	120	6	4.1	64	680	530	U < 450
TRICHLOROETHENE (TCE)	79-01-6	880	110	U < 340	U < 43	U < 59	U < 11	7	8.1	U < 11	U < 110	U < 640	U < 640
TRICHLOROFLUOROMETHANE	75-69-4	310000	39000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VINYL CHLORIDE	75-01-4	1400	170	U < 160	U < 20	5,400	590	6.4	4.9	6.9	U < 51	U < 310	U < 310
XYLEMES (TOTAL)	1330-20-7	44000	5600	3,300	220	210	72	7.8	U < 0.87	81	330	U < 520	U < 520

Notes:

All samples analyzed via Method TO15.

All VOC results in micrograms per cubic meter ($\mu\text{g}/\text{m}^3$). All Helium results in %v/v.

Vapor Intrusion SV = Vapor Intrusion Screening Value from PADEP (January 2017)

NA - Not Analyzed

NS = No Screening Value

RDL = Reporting Detection Limit.

U = Not detected above the RDL shown.

J = Result is estimated.

Bolded value exceeds 1/10 Non-Residential Sub-Slab or Near-Source Soil Gas SHS Vapor Intrusion Screening Values ($\mu\text{g}/\text{m}^3$)

Table 18
Former West Production Area: Soil Gas Analytical Results - Rounds 1 and 2
Act 2 Soil Remedial Investigation Report
Rohm and Haas Chemicals LLC Philadelphia Plant

Location	CAS NO	1/10 Non-Residential Near-Source Soil Gas Statewide Health Standard	1/10 Non-Residential Sub-Slab Soil Gas Statewide Health Standard	VP-34	VP-34	VP-35	VP-35	VP-36	VP-36	VP-37	VP-37	VP-38	VP-38	VP-38 Field Duplicate
				3/5/2009	3/25/2009	3/6/2009	3/25/2009	3/6/2009	3/24/2009	3/5/2009	3/25/2009	3/5/2009	3/25/2009	3/25/2009
Groundwater Level (feet bgs)			Vapor Intrusion SV ($\mu\text{g}/\text{m}^3$)	3	3	7.5	7.5	8	8	12.5	12.5	15	15	15
TO15 Volatile Organic Compounds ($\mu\text{g}/\text{m}^3$)														
1,1,1,2-TETRACHLOROETHANE	630-20-6	1700	210	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-TRICHLOROETHANE	71-55-6	2200000	280000	U < 2.7	U < 2.2	U < 110	U < 55	U < 1,800	U < 8,700	U < 1,400	U < 2,200	U < 1,500	U < 2,600	U < 370
1,1,2,2-TETRACHLOROETHANE	79-34-5	210	27	U < 3.4	U < 2.7	U < 140	U < 69	U < 2,300	U < 11,000	U < 1,700	U < 2,700	U < 1,900	U < 3,200	U < 470
1,1,2-TRICHLOROETHANE	79-00-5	88	11	U < 2.7	U < 2.2	U < 110	U < 55	U < 1,800	U < 8,700	U < 1,400	U < 2,200	U < 1,500	U < 2,600	U < 370
1,1-DICHLOROETHANE	75-34-3	7700	980	6.1	6.5	U < 81	U < 40	U < 1,300	U < 6,500	U < 1,000	U < 1,600	U < 1,100	U < 1,900	U < 280
1,1-DICHLOROETHENE	75-35-4	88000	11000	U < 2	U < 1.6	U < 79	U < 40	U < 1,300	U < 6,300	U < 990	U < 1,600	U < 1,100	U < 1,900	U < 270
1,2,3-TRICHLOROPROPANE	96-18-4	130	17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-TRIMETHYLBENZENE	95-63-6	3100	390	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-DIBROMOETHANE	106-93-4	20	2.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-DICHLOROBENZENE	95-50-1	88000	11000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-DICHLOROETHANE	107-06-2	470	61	15	11	850	690	U < 1,300	U < 6,500	U < 1,000	U < 1,600	U < 1,100	U < 1,900	U < 280
1,2-DICHLOROETHENE, CIS	156-59-2	NS	NS	9.5	79	5,600	5,900	U < 1,300	U < 6,300	2,300	2,000	U < 1,100	U < 1,900	U < 270
1,2-DICHLOROETHENE, TRANS	156-60-5	26000	3400	U < 2	1.9	240	250	U < 1,300	U < 6,300	U < 990	U < 1,600	U < 1,100	U < 1,900	U < 270
1,2-DICHLOROPROPANE	78-87-5	1200	160	U < 2.3	U < 1.8	U < 92	U < 46	U < 1,500	U < 7,400	U < 1,200	U < 1,800	U < 1,300	U < 2,200	U < 310
1,3-DICHLOROPROPENE	542-75-6	3100	390	U < 2.3	U < 1.8	U < 91	U < 45	U < 1,500	U < 7,300	U < 1,100	U < 1,800	U < 1,300	U < 2,100	U < 310
1,3,5-TRIMETHYLBENZENE	108-67-8	3100	390	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-BUTADIENE	106-99-0	410	52	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-DICHLOROBENZENE	106-46-7	1100	140	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-BUTANONE	78-93-3	2200000	280000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-HEXANONE	591-78-6	13000	1700	U < 5.3	U < 4.1	U < 200	U < 100	U < 3,400	U < 16,000	U < 2,600	U < 4,100	U < 2,900	U < 4,900	U < 700
3-CHLOROPROPENE	107-05-1	440	56	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-ETHYLTOLUENE	622-96-8	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-METHYL-2-PENTANONE	108-10-1	1300000	170000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
ACETONE	67-64-1	1400000	1700000	140	130	U < 1,200	U < 590	U < 19,000	U < 93,000	U < 15,000	U < 24,000	U < 17,000	U < 29,000	U < 4,000
BENZENE	71-43-2	1600	200	1.8	2.3	U < 64	86	1,200	U < 5,100	U < 800	U < 1,300	U < 890	1,600	380
BROMOBENZENE	108-86-1	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BROMODICHLOROMETHANE	75-27-4	330	43	U < 3.4	U < 2.7	U < 130	U < 67	U < 2,200	U < 11,000	U < 1,700	U < 2,700	U < 1,900	U < 3,100	U < 460
BROMOFORM	75-25-2	11000	1400	U < 5.2	U < 4.1	U < 210	U < 100	U < 3,400	U < 17,000	U < 2,600	U < 4,100	U < 2,900	U < 4,900	U < 700
BROMOMETHANE	74-83-9	2200	280	U < 1.9	U < 1.6	U < 78	U < 39	U < 1,300	U < 6,200	U < 970	U < 1,600	U < 1,100	U < 1,800	U < 260
CARBON DISULFIDE	75-15-0	310000	39000	19	15	U < 160	U < 78	U < 2,600	U < 12,000	U < 2,000	U < 3,100	U < 2,200	U < 3,700	U < 530
CARBON TETRACHLORIDE	56-23-5	2000	260	U < 3.1	2.7	U < 130	U < 63	U < 2,100	U < 10,000	U < 1,600	U < 2,500	U < 1,800	U < 3,000	U < 430
CHLOROBENZENE	108-90-7	22000	2800	U < 2.3	U < 1.8	97	120	U < 1,500	U < 7,400	U < 1,200	U < 1,800	U < 1,300	U < 2,200	U < 310
CHLORODIFLUOROMETHANE	75-45-6	2200000	2800000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CHLOROETHANE	75-00-3	4400000	560000	U < 3.4	U < 2.6	U < 130	U < 66	U < 2,200	U < 10,000	U < 1,700	U < 2,600	U < 1,900	U < 3,200	U < 450
CHLOROFORM	67-66-3	530	68	5.9	16	U < 98	U < 49	U < 1,600	U < 7,800	U < 1,200	U < 2,000	U < 1,400	U < 2,300	U < 330
CHLOROMETHANE	74-87-3	6800	870	U < 2.7	2.5	U < 100	U < 52	U < 1,700	U < 8,100	U < 1,300	U < 2,100	U < 1,500	U < 2,500	U < 350
CUMENE	98-82-8	180000	22000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DIBROMOCHLOROMETHANE	124-48-1	450	58	U < 4.3	U < 3.4	U < 170	U < 85	U < 2,800	U < 14,000	U < 2,100	U < 3,400	U < 2,400	U < 4,000	U < 580
DIBROMOMETHANE	74-95-3	1800	220	NA	NA</									

Table 18
Former West Production Area: Soil Gas Analytical Results - Rounds 1 and 2
Act 2 Soil Remedial Investigation Report
Rohm and Haas Chemicals LLC Philadelphia Plant

Location	CAS NO	1/10 Non-Residential Near-Source Soil Gas Statewide Health Standard	1/10 Non-Residential Sub-Slab Soil Gas Statewide Health Standard	VP-34	VP-34	VP-35	VP-35	VP-36	VP-36	VP-37	VP-37	VP-38	VP-38	VP-38 Field Duplicate	
Sample Date				3/5/2009	3/25/2009	3/6/2009	3/25/2009	3/6/2009	3/24/2009	3/5/2009	3/25/2009	3/5/2009	3/25/2009	3/25/2009	
Groundwater Level (feet bgs)				3	3	7.5	7.5	8	8	12.5	12.5	15	15	15	
TO15 Volatile Organic Compounds (ug/m³)															
FREON 113	76-13-1	13000000	1700000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
FREON 114	76-14-2	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
HELIUM	7440-59-7	NS	NS	U < 2.1	U < 2.2	U < 2	U < 2.2	U < 2.2	U < 2.5	U < 2.1	U < 2.3	U < 2.2	U < 2.1	U < 2.3	
HEPTANE	142-82-5	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
HEXACHLOROETHANE	67-72-1	1200	160	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
HEXANE	110-54-3	310000	39000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
ISOOCTANE	540-84-1	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
METHYL ETHYL KETONE (2-BUTANONE)	78-93-3	2200000	280000	4.1	9.4	U < 150	U < 74	U < 2,400	U < 12,000	U < 1,900	U < 2,900	U < 2,100	U < 3,500	U < 500	
METHYL ISOBUTYL KETONE (4-METHYL-2-PENTANONE)	108-10-1	1300000	170000	U < 5.3	U < 4.1	U < 200	U < 100	U < 3,400	U < 16,000	U < 2,600	U < 4,100	U < 2,900	U < 4,900	U < 700	
METHYL T-BUTYL ETHER	1634-04-4	47000	6100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
METHYLENE CHLORIDE	75-09-2	260000	34000	U < 4.5	U < 3.5	U < 170	U < 87	U < 2,800	U < 14,000	U < 2,200	U < 3,500	U < 2,500	U < 4,200	U < 590	
OCTANE	111-65-9	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
PENTANE	109-66-0	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
STYRENE	100-42-5	440000	56000	U < 2.1	U < 1.7	U < 85	U < 43	U < 1,400	U < 6,800	U < 1,100	U < 1,700	U < 1,200	U < 2,000	U < 290	
TETRACHLOROETHENE (PCE)	127-18-4	18000	2200	U < 3.4	190	500	390	U < 2,200	U < 11,000	U < 1,700	U < 2,700	U < 1,900	U < 3,200	U < 460	
TOLUENE	108-88-3	2200000	280000	U < 1.9	26	230	170	200,000	870,000	72,000	60,000	U < 1,100	U < 1,800	U < 260	
TRICHLOROETHENE (TCE)	79-01-6	880	110	U < 2.7	19	530	280	U < 1,800	U < 8,600	U < 1,300	U < 2,100	U < 1,500	U < 2,500	U < 370	
TRICHLOROFLUOROMETHANE	75-69-4	310000	39000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
VINYL CHLORIDE	75-01-4	1400	170	5.4	1.1	5,600	5,100	U < 840	U < 4,100	1,500	1,300	U < 720	U < 1,200	180	
XYLENES (TOTAL)	1330-20-7	44000	5600	U < 2.2	53	1,070	1,080	1,080	296,000	1,950,000	321,000	403,000	33,000	7,800	2,700

Notes:

All samples analyzed via Method TO15.

All VOC results in micrograms per cubic meter (ug/m³). All Helium results in %v/v.

Vapor Intrusion SV = Vapor Intrusion Screening Value from PADEP (January 2017)

NA - Not Analyzed

NS = No Screening Value

RDL = Reporting Detection Limit.

U = Not detected above the RDL shown.

J = Result is estimated.

Bolded value exceeds 1/10 Non-Residential Sub-Slab or Near-Source Soil Gas SHS Vapor Intrusion Screening Values (ug/m3)

Table 18
Former West Production Area: Soil Gas Analytical Results - Rounds 1 and 2
Act 2 Soil Remedial Investigation Report
Rohm and Haas Chemicals LLC Philadelphia Plant

Location	CAS NO	1/10 Non-Residential Near-Source Soil Gas Statewide Health Standard	1/10 Non-Residential Sub-Slab Soil Gas Statewide Health Standard	VP-39	VP-39	VP-40	VP-40	VP-40 Field Duplicate	VP-41	VP-41 Field Duplicate	VP-41	VP-42	VP-42
				3/5/2009	3/25/2009	4/3/2017	6/1/2017	6/1/2017	4/3/2017	4/3/2017	6/1/2017	4/3/2017	6/1/2017
Groundwater Level (feet bgs)		Vapor Intrusion SV ($\mu\text{g}/\text{m}^3$)		10	10	6	6	6	6	6	6	6	6
TO15 Volatile Organic Compounds ($\mu\text{g}/\text{m}^3$)													
1,1,1,2-TETRACHLOROETHANE	630-20-6	1700	210	NA	NA	U < 6.9	U < 690	U < 690	U < 6.9	U < 6.9	U < 6.9	U < 6.9	U < 6.9
1,1,1-TRICHLOROETHANE	71-55-6	2200000	280000	U < 22	U < 22	U < 5.5	U < 550	U < 550	U < 5.5	U < 5.5	U < 5.5	U < 5.5	U < 5.5
1,1,2,2-TETRACHLOROETHANE	79-34-5	210	27	U < 27	U < 27	U < 6.9	U < 690	U < 690	U < 6.9	U < 6.9	U < 6.9	U < 6.9	U < 6.9
1,1,2-TRICHLOROETHANE	79-00-5	88	11	U < 22	U < 22	U < 5.5	U < 550	U < 550	U < 5.5	U < 5.5	U < 5.5	U < 5.5	U < 5.5
1,1-DICHLOROETHANE	75-34-3	7700	980	U < 16	U < 16	U < 4	U < 400	U < 400	U < 4	U < 4	J 1.2	U < 4	U < 4
1,1-DICHLOROETHENE	75-35-4	88000	11000	U < 16	U < 16	U < 4	U < 400	U < 400	U < 4	U < 4	U < 4	U < 4	U < 4
1,2,3-TRICHLOROPROPANE	96-18-4	130	17	NA	NA	U < 6	U < 600	U < 600	U < 6	U < 6	U < 6	U < 6	U < 6
1,2,4-TRIMETHYLBENZENE	95-63-6	3100	390	NA	NA	6.5	U < 490	U < 490	33	30	8.3	22	8.9
1,2-DIBROMOETHANE	106-93-4	20	2.6	NA	NA	U < 7.7	U < 770	U < 770	U < 7.7	U < 7.7	U < 7.7	U < 7.7	U < 7.7
1,2-DICHLOROBENZENE	95-50-1	88000	11000	NA	NA	U < 6	U < 600	U < 600	U < 6	U < 6	U < 6	U < 6	U < 6
1,2-DICHLOROETHANE	107-06-2	470	61	U < 16	U < 16	U < 4	U < 400	U < 400	350	340	400	U < 4	U < 4
1,2-DICHLOROETHENE, CIS	156-59-2	NS	NS	59	U < 16	29	J 160	J 150	63	61	18	J 1.2	U < 4
1,2-DICHLOROETHENE, TRANS	156-60-5	26000	3400	U < 16	U < 16	J 3.9	U < 400	U < 400	24	23	31	U < 4	U < 4
1,2-DICHLOROPROPANE	78-87-5	1200	160	U < 18	U < 18	U < 4.6	U < 460	U < 460	U < 4.6	U < 4.6	J 1.3	U < 4.6	U < 4.6
1,3-DICHLOROPROPENE	542-75-6	3100	390	U < 18	U < 18	U < 4.5	U < 450	U < 450	U < 4.5	U < 4.5	U < 4.5	U < 4.5	U < 4.5
1,3,5-TRIMETHYLBENZENE	108-67-8	3100	390	NA	NA	J 2.4	U < 490	U < 490	12	11	6.4	6.3	J 4.6
1,3-BUTADIENE	106-99-0	410	52	NA	NA	U < 4.4	U < 440	U < 440	U < 4.4	U < 4.4	U < 4.4	U < 4.4	U < 4.4
1,4-DICHLOROBENZENE	106-46-7	1100	140	NA	NA	U < 6	U < 600	U < 600	U < 6	U < 6	U < 6	U < 6	U < 6
2-BUTANONE	78-93-3	2200000	280000	NA	NA	26	U < 590	U < 590	52	52	24	37	42
2-HEXANONE	591-78-6	13000	1700	U < 41	U < 41	U < 8.2	U < 820	U < 820	U < 8.2	U < 8.2	J 6.1	U < 8.2	U < 8.2
3-CHLOROPROPENE	107-05-1	440	56	NA	NA	U < 3.1	U < 310	U < 310	U < 3.1	U < 3.1	U < 3.1	U < 3.1	U < 3.1
4-ETHYLTOLUENE	622-96-8	NS	NS	NA	NA	J 1.8	U < 490	U < 490	8.4	6.3	J 2.9	6.3	J 4
4-METHYL-2-PENTANONE	108-10-1	1300000	170000	NA	NA	U < 8.2	U < 820	U < 820	U < 8.2	U < 8.2	U < 8.2	U < 8.2	U < 8.2
ACETONE	67-64-1	14000000	1700000	U < 240	U < 240	53	2100	2000	J 23	J 83	14	12	33
BENZENE	71-43-2	1600	200	140	120	J 2.2	U < 320	U < 320	34	33	J 0.91	3.9	J 1.1
BROMOBENZENE	108-86-1	NS	NS	NA	NA	U < 6.4	U < 640	U < 640	U < 6.4	U < 6.4	U < 6.4	U < 6.4	U < 6.4
BROMODICHLOROMETHANE	75-27-4	330	43	U < 27	U < 27	U < 6.7	U < 670	U < 670	U < 6.7	U < 6.7	U < 6.7	U < 6.7	U < 6.7
BROMOFORM	75-25-2	11000	1400	U < 41	U < 41	U < 10	U < 1000	U < 1000	U < 10	U < 10	U < 10	U < 10	U < 10
BROMOMETHANE	74-83-9	2200	280	U < 16	U < 16	U < 3.9	U < 390	U < 390	U < 3.9	U < 3.9	U < 3.9	U < 3.9	U < 3.9
CARBON DISULFIDE	75-15-0	310000	39000	50	U < 31	6.9	610	630	17	17	5.4	U < 3.1	U < 3.1
CARBON TETRACHLORIDE	56-23-5	2000	260	U < 25	U < 25	U < 6.3	U < 630	U < 630	U < 6.3	U < 6.3	U < 6.3	U < 6.3	U < 6.3
CHLOROBENZENE	108-90-7	22000	2800	U < 18	U < 18	U < 4.6	U < 460	U < 460	U < 4.6	U < 4.6	U < 4.6	U < 4.6	U < 4.6
CHLORODIFLUOROMETHANE	75-45-6	22000000	2800000	NA	NA	U < 3.5	U < 350	U < 350	U < 3.5	U < 3.5	U < 3.5	U < 3.5	U < 3.5
CHLOROETHANE	75-00-3	4400000	560000	U < 26	U < 26	U < 2.6	U < 260	U < 260	U < 2.6	U < 2.6	U < 2.6	U < 2.6	U < 2.6
CHLOROFORM	67-66-3	530	68	U < 20	U < 20	U < 4.9	U < 490	U < 490	J 4.8	J 4.7	J 4.3	J 4.5	6.7
CHLOROMETHANE	74-87-3	6800	870	U < 21	U < 21	U < 2.1	U < 210	U < 210	U < 2.1	U < 2.1	U < 2.1	U < 2.1	U < 2.1
CUMENE	98-82-8	180000	22000	NA	NA	J 1.3	U < 490	U < 490	7.6	7.2	J 2.4	J 1.3	5.3
DIBROMOCHLOROMETHANE	124-48-1	450	58	U < 34	U < 34	U < 8.5	U < 850	U < 850	U < 8.5	U < 8.5	U < 8.5	U < 8.5	U < 8.5
DIBROMOMETHANE	74-95-3	1800	220	NA	NA	U < 7.1	U < 710	U < 710	U < 7.1	U < 7.1	U		

Table 18
Former West Production Area: Soil Gas Analytical Results - Rounds 1 and 2
Act 2 Soil Remedial Investigation Report
Rohm and Haas Chemicals LLC Philadelphia Plant

Location	CAS NO	1/10 Non-Residential Near-Source Soil Gas Statewide Health Standard	1/10 Non-Residential Sub-Slab Soil Gas Statewide Health Standard	VP-39	VP-39	VP-40	VP-40	VP-40 Field Duplicate	VP-41	VP-41 Field Duplicate	VP-41	VP-42	VP-42
				3/5/2009	3/25/2009	4/3/2017	6/1/2017	6/1/2017	4/3/2017	4/3/2017	6/1/2017	4/3/2017	6/1/2017
Groundwater Level (feet bgs)		Vapor Intrusion SV ($\mu\text{g}/\text{m}^3$)		10	10	6	6	6	6	6	6	6	6
TO15 Volatile Organic Compounds ($\mu\text{g}/\text{m}^3$)													
FREON 113	76-13-1	13000000	1700000	NA	NA	U < 15	U < 1500	U < 1500	U < 15	U < 15	U < 15	U < 15	U < 15
FREON 114	76-14-2	NS	NS	NA	NA	U < 7	U < 700	U < 700	U < 7	U < 7	U < 7	U < 7	U < 7
HELIUM	7440-59-7	NS	NS	U < 2	U < 2.3	U < 0.17	U < 0.17	U < 0.17	U < 0.17	U < 0.17	U < 0.17	U < 0.17	U < 0.17
HEPTANE	142-82-5	NS	NS	NA	NA	J 3.8	U < 410	J 120	36	34	U < 4.1	U < 4.1	U < 4.1
HEXACHLOROETHANE	67-72-1	1200	160	NA	NA	U < 9.7	U < 970	U < 970	U < 9.7	U < 9.7	U < 9.7	U < 9.7	U < 9.7
HEXANE	110-54-3	310000	39000	NA	NA	J 2.1	U < 350	J 91	53	51	U < 3.5	J 0.92	U < 3.5
ISOCTANE	540-84-1	NS	NS	NA	NA	630	9900	13000	95	92	11	16	30
METHYL ETHYL KETONE (2-BUTANONE)	78-93-3	2200000	280000	U < 29	U < 29	26	U < 590	U < 590	52	52	24	37	42
METHYL ISOBUTYL KETONE (4-METHYL-2-PENTANONE)	108-10-1	1300000	170000	U < 41	U < 41	U < 8.2	U < 820	U < 820	U < 8.2	U < 8.2	U < 8.2	U < 8.2	U < 8.2
METHYL T-BUTYL ETHER	1634-04-4	47000	6100	NA	NA	U < 3.6	U < 360	U < 360	U < 3.6	U < 3.6	U < 3.6	U < 3.6	U < 3.6
METHYLENE CHLORIDE	75-09-2	260000	34000	U < 35	U < 35	U < 3.5	J 300	J 340	4	3.8	J 3.4	U < 3.5	U < 3.5
OCTANE	111-65-9	NS	NS	NA	NA	5.7	U < 470	U < 470	29	25	U < 4.7	J 2.6	U < 4.7
PENTANE	109-66-0	NS	NS	NA	NA	J 2.9	J 240	J 260	13	13	J 1	J 1.9	J 0.72
STYRENE	100-42-5	440000	56000	U < 17	U < 17	U < 4.3	U < 430	J 100	U < 4.3	U < 4.3	U < 4.3	U < 4.3	J 2
TETRACHLOROETHENE (PCE)	127-18-4	18000	2200	U < 27	U < 27	49	U < 680	U < 680	19	18	40	70	180
TOLUENE	108-88-3	2200000	280000	100	87	140	J 240	J 280	480	440	J 2.7	11	3.9
TRICHLOROETHENE (TCE)	79-01-6	880	110	U < 21	U < 21	7.3	J 240	J 180	7.4	7.3	11	8.5	11
TRICHLOROFLUOROMETHANE	75-69-4	310000	39000	NA	NA	U < 5.6	U < 560	U < 560	U < 5.6	U < 5.6	J 1.2	J 1.2	J 1.2
VINYL CHLORIDE	75-01-4	1400	170	100	72	J 0.6	J 130	J 150	5.8	5.5	U < 2.6	U < 2.6	U < 2.6
XYLENES (TOTAL)	1330-20-7	44000	5600	299	297	173	U < 430	U < 430	982	897	J 24.3	27.9	J 11.4

Notes:

All samples analyzed via Method TO15.

All VOC results in micrograms per cubic meter ($\mu\text{g}/\text{m}^3$). All Helium results in %v/v.

Vapor Intrusion SV = Vapor Intrusion Screening Value from PADEP (January 2017)

NA = Not Analyzed

NS = No Screening Value

RDL = Reporting Detection Limit.

U = Not detected above the RDL shown.

J = Result is estimated.

Bolded value exceeds 1/10 Non-Residential Sub-Slab or Near-Source Soil Gas SHS Vapor Intrusion Screening Values ($\mu\text{g}/\text{m}^3$)

Figures

Coordinate Table (WGS 1984/NAD 83)		
Label	Longitude	Latitude
A1-01	-75.0624195	40.0023070
A1-02	-75.0642419	40.0033548
A1-03	-75.0630971	40.0045242
A1-04	-75.0626459	40.0042630
A1-05	-75.0622424	40.0046731
A1-06	-75.0607113	40.0038066
A1-07	-75.0613680	40.0031203
A1-08	-75.0606435	40.0027102
A1-09	-75.0614982	40.0017772
A1-10	-75.0620707	40.0021064
A1-11	-75.0622439	40.0019284
A1-12	-75.0625927	40.0021289

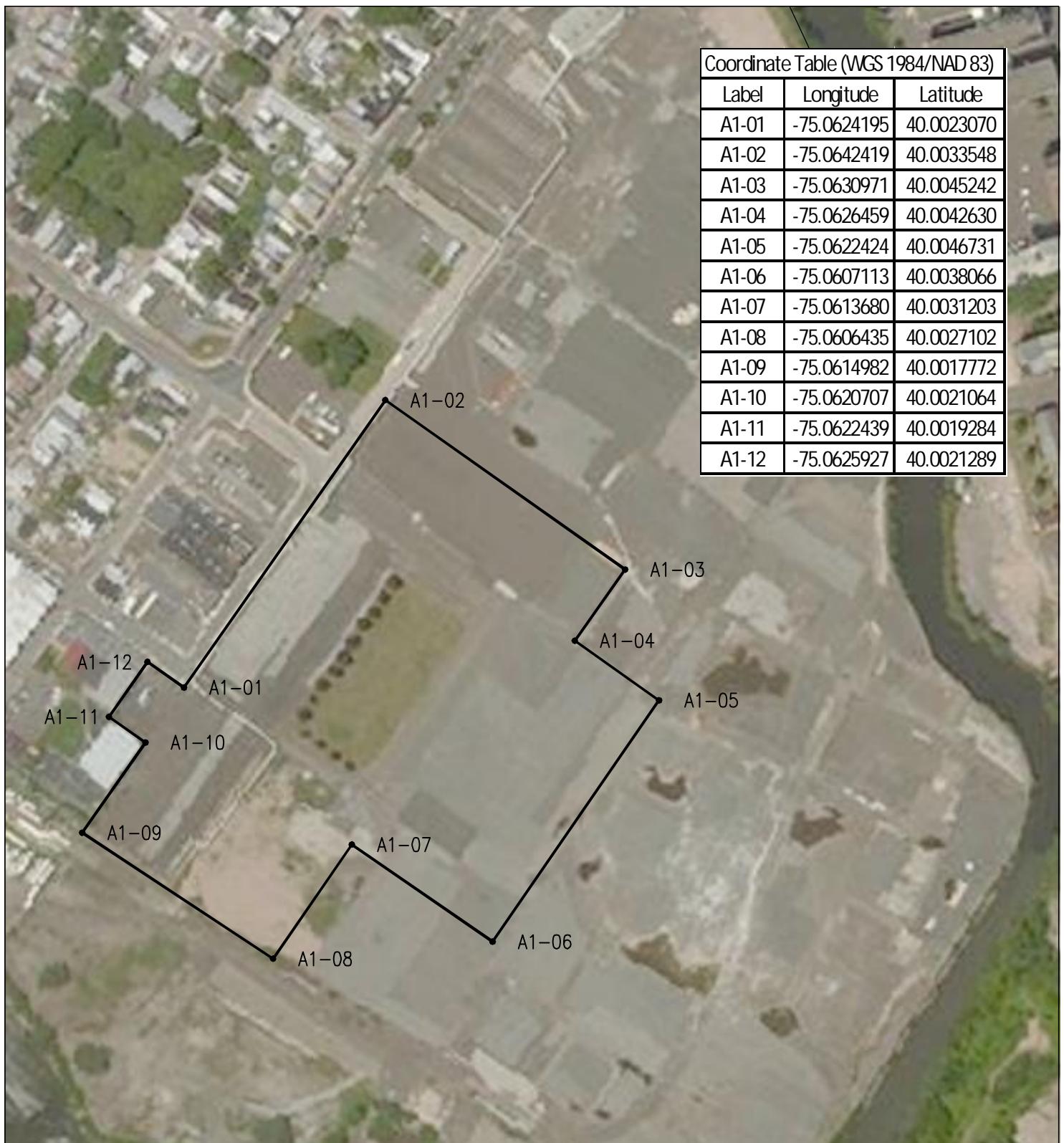
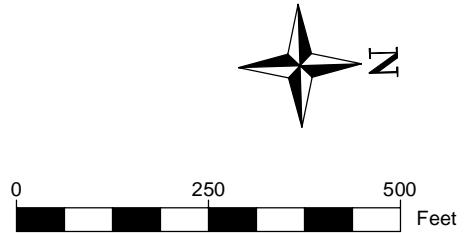


Figure 1 - East Area 1 Boundary
Rohm and Haas Chemicals LLC
Forty-Fifth Ward
City of Philadelphia
Pennsylvania
eFACTS Client ID 172919

 Covenant Boundaries



Coordinate Table (WGS 1984/NAD 83)					
Label	Longitude	Latitude	Label	Longitude	Latitude
A2-01	-75.0614193	40.0017319	A2-22	-75.0596006	40.003293
A2-02	-75.0584508	40.0049846	A2-23	-75.0594549	40.0031415
A2-03	-75.0584357	40.0049767	A2-24	-75.0595022	40.0031247
A2-04	-75.0584514	40.0049573	A2-25	-75.0596466	40.0031639
A2-05	-75.0582575	40.0048138	A2-26	-75.0597225	40.0031612
A2-06	-75.0583062	40.0047558	A2-27	-75.0597303	40.003112
A2-07	-75.0579758	40.004589	A2-28	-75.0594155	40.0029566
A2-08	-75.0579589	40.004489	A2-29	-75.0592513	40.0028469
A2-09	-75.0579852	40.0043304	A2-30	-75.0592045	40.0027514
A2-10	-75.0581814	40.0040794	A2-31	-75.0592385	40.0025681
A2-11	-75.0582887	40.0039931	A2-32	-75.0592162	40.0025249
A2-12	-75.0584871	40.0037681	A2-33	-75.0593204	40.0021582
A2-13	-75.0586663	40.0036625	A2-34	-75.0593501	40.001894
A2-14	-75.0587125	40.0035929	A2-35	-75.0595387	40.0017403
A2-15	-75.0588338	40.0035275	A2-36	-75.059831	40.0016279
A2-16	-75.0589706	40.0034353	A2-37	-75.0600256	40.0015811
A2-17	-75.0590095	40.0033375	A2-38	-75.0600788	40.0015319
A2-18	-75.0591742	40.0033054	A2-39	-75.0601921	40.0015404
A2-19	-75.059467	40.0034245	A2-40	-75.060313	40.0014319
A2-20	-75.0595838	40.0034227	A2-41	-75.0604809	40.0013722
A2-21	-75.0596271	40.0033609	A2-42	-75.0606245	40.0012749

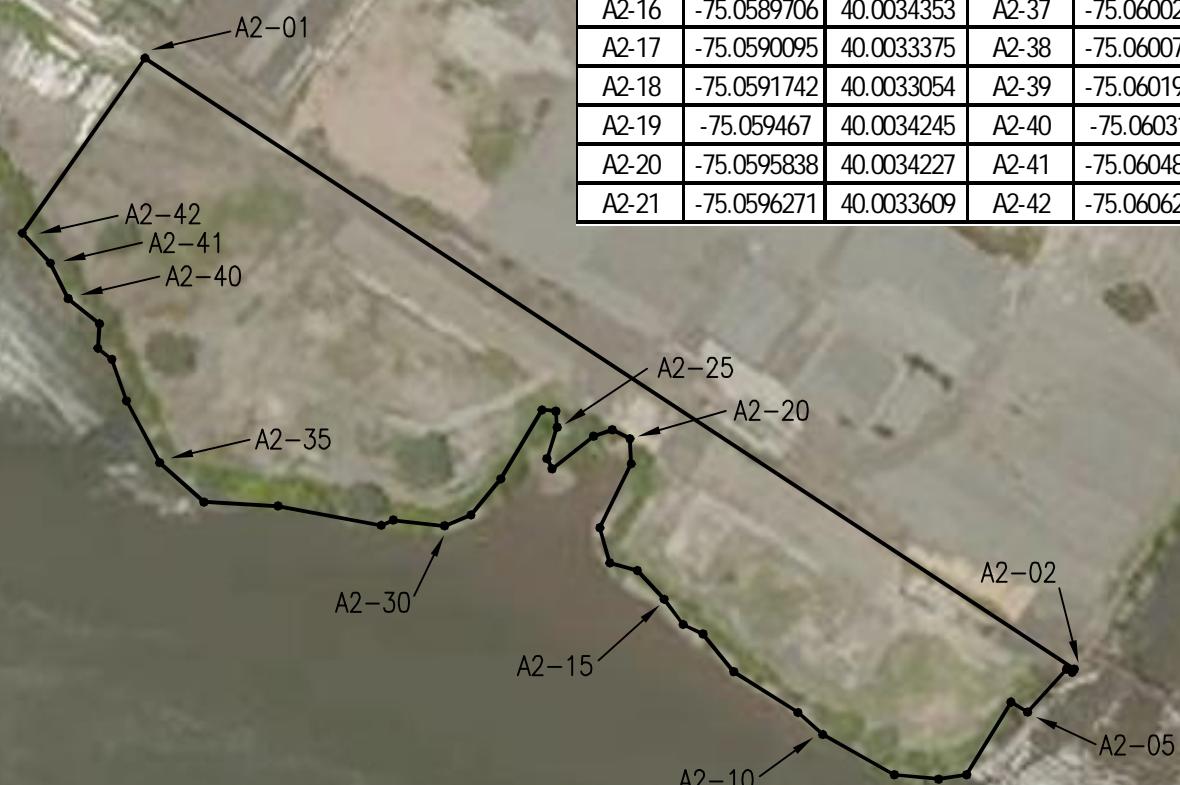


Figure 2 - East Area 2A Boundary
Rohm and Haas Chemicals LLC
Forty-Fifth Ward
City of Philadelphia
Pennsylvania
eFACTS Client ID 172919

 Covenant Boundaries



0 250 500 Feet

Coordinate Table (WGS 1984/NAD 83)					
Label	Longitude	Latitude	Label	Longitude	Latitude
A3-01	-75.0657293	40.0034285	A3-43	-75.0651223	40.0058902
A3-02	-75.0666536	40.0039599	A3-44	-75.0649304	40.0058845
A3-03	-75.0667075	40.0039922	A3-45	-75.0648466	40.0058781
A3-04	-75.0667596	40.0040262	A3-46	-75.0647616	40.0058890
A3-05	-75.0668098	40.0040617	A3-47	-75.0646639	40.0058791
A3-06	-75.0668581	40.0040988	A3-48	-75.0645938	40.0058902
A3-07	-75.0669044	40.0041374	A3-49	-75.0644821	40.0058747
A3-08	-75.0669486	40.0041774	A3-50	-75.0644311	40.0058737
A3-09	-75.0669907	40.0042188	A3-51	-75.0643566	40.0058517
A3-10	-75.0670305	40.0042614	A3-52	-75.0640569	40.0058517
A3-11	-75.0670680	40.0043053	A3-53	-75.0636594	40.0058568
A3-12	-75.0671032	40.0043503	A3-54	-75.0635321	40.0058488
A3-13	-75.0671360	40.0043964	A3-55	-75.0634955	40.0058461
A3-14	-75.0671663	40.0044434	A3-56	-75.0634784	40.0058545
A3-15	-75.0671940	40.0044914	A3-57	-75.0632155	40.0058704
A3-16	-75.0672192	40.0045402	A3-58	-75.0631348	40.0058620
A3-17	-75.0674583	40.0050323	A3-59	-75.0630861	40.0058488
A3-18	-75.0675051	40.0051414	A3-60	-75.0630739	40.0058377
A3-19	-75.0674367	40.0051661	A3-61	-75.0630398	40.0058488
A3-20	-75.0674433	40.0051923	A3-62	-75.0630125	40.0058577
A3-21	-75.0672666	40.0052339	A3-63	-75.0629930	40.0058629
A3-22	-75.0671192	40.0052998	A3-64	-75.0629817	40.0058692
A3-23	-75.0670691	40.0053111	A3-65	-75.0629661	40.0058678
A3-24	-75.0669072	40.0053721	A3-66	-75.0624858	40.0060094
A3-25	-75.0667767	40.0054219	A3-67	-75.0623279	40.0061425
A3-26	-75.0667073	40.0054502	A3-68	-75.0619155	40.0064409
A3-27	-75.0666141	40.0054729	A3-69	-75.0616520	40.0065071
A3-28	-75.0665407	40.0055048	A3-70	-75.0612170	40.0064113
A3-29	-75.0664919	40.0055254	A3-71	-75.0596968	40.0056440
A3-30	-75.0663569	40.0055634	A3-72	-75.0585515	40.0050449
A3-31	-75.0663377	40.0055713	A3-73	-75.0584676	40.0049934
A3-32	-75.0663270	40.0055753	A3-74	-75.0584508	40.0049846
A3-33	-75.0662094	40.0056290	A3-75	-75.0614193	40.0017319
A3-34	-75.0661089	40.0056672	A3-76	-75.0614982	40.0017772
A3-35	-75.0659860	40.0057147	A3-77	-75.0606435	40.0027102
A3-36	-75.0658803	40.0057589	A3-78	-75.0613680	40.0031203
A3-37	-75.0658132	40.0057945	A3-79	-75.0607113	40.0038066
A3-38	-75.0655794	40.0058512	A3-80	-75.0622424	40.0046731
A3-39	-75.0654896	40.0058641	A3-81	-75.0626459	40.0042630
A3-40	-75.0654359	40.0058663	A3-82	-75.0630971	40.0045242
A3-41	-75.0654009	40.0058589	A3-83	-75.0642419	40.0033548
A3-42	-75.0652079	40.0058891	A3-84	-75.0652420	40.0039298

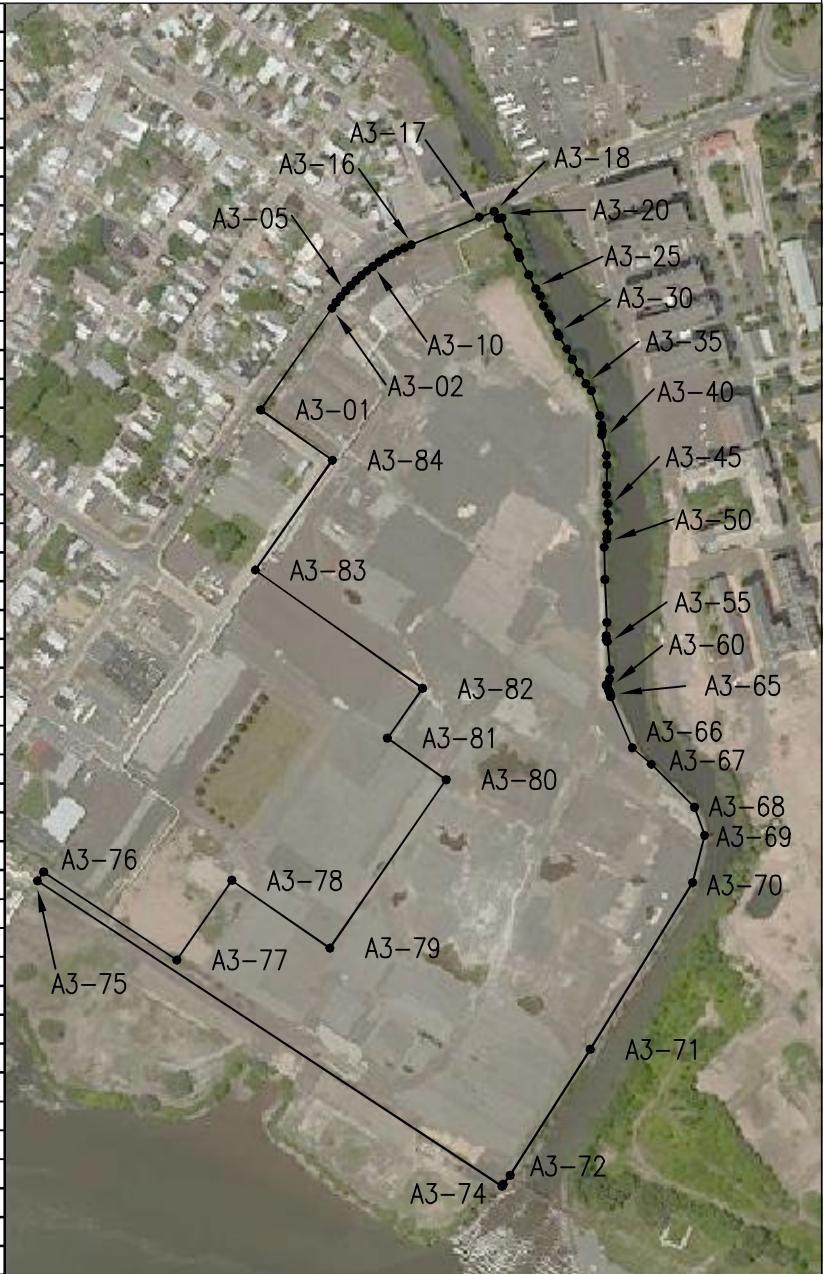


Figure 3 - East Area 2B, East Area 2C, and WPA Boundary

Rohm and Haas Chemicals LLC

Forty-Fifth Ward

City of Philadelphia

Pennsylvania

eFACTS Client ID 172919



Covenant Boundaries



AECOM



Legend

- Spot Elevation Points
 - 1' Elevation Contours
 -  East Area 1 - Covered Under Statewide Health Standards - Non Residential
 -  East Area 2A - Covered Under Site-Specific Standards - Residential
 -  East Area 2B/2C - Covered Under Site-Specific Standards - Non-Residential
 -  Former West Production Area - Covered Under Site-Specific Standards - Non-Residential

Note: Aerial Survey was Conducted on August 7th, 2012



Key Man

NAD 1983 State Plane Pennsylvania South
FIPS 3702 Feet
Lambert Conformal Conic

Reference:
AEGOM Custom Data

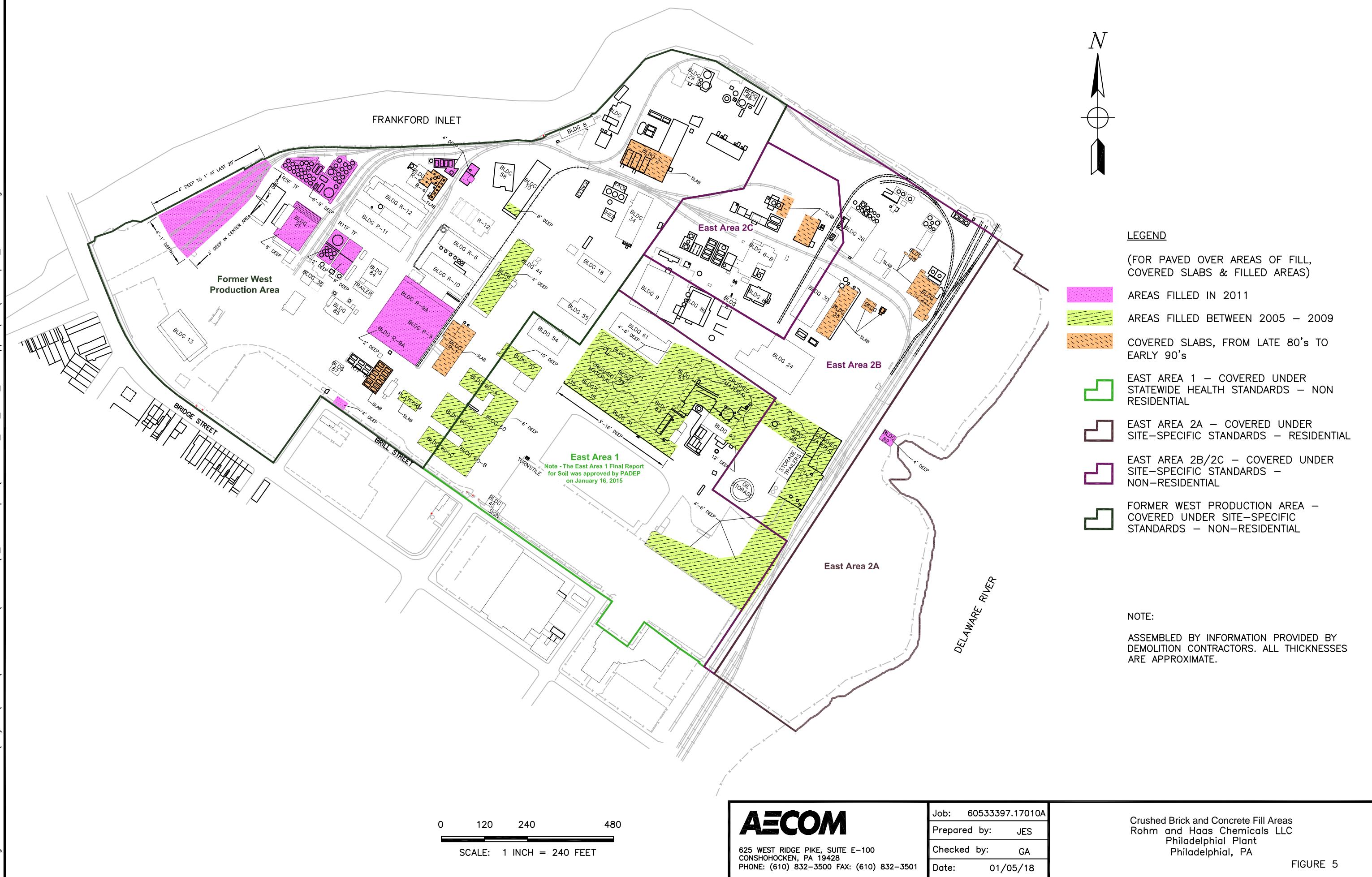
0 75 150 300

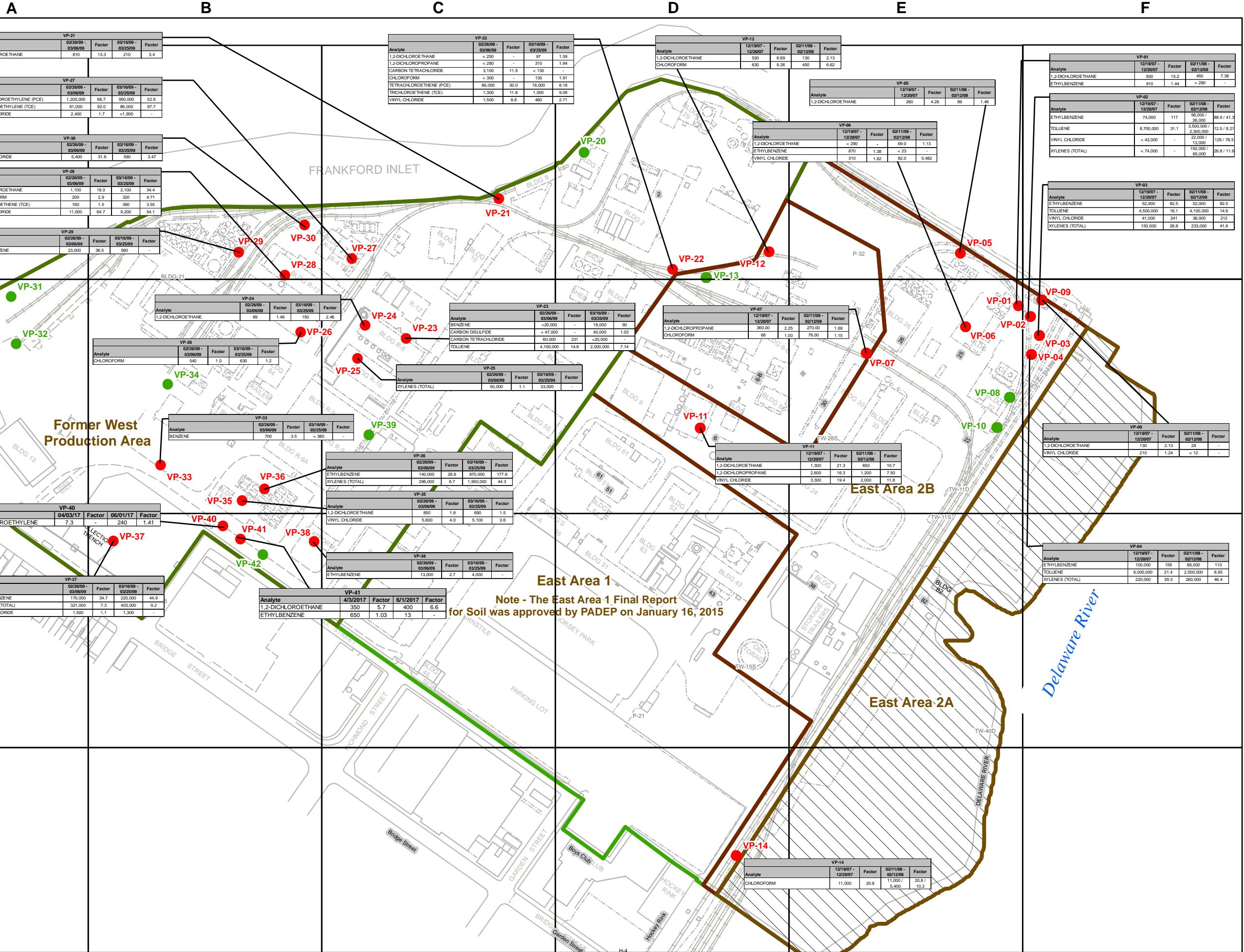
AECOM

Figure 4
Ground Survey Contour Map

Rohm and Haas Chemicals LLC Philadelphia Plant
Philadelphia, PA

Prepared By: CDW	Checked By: GMA
Job: 60533397	Date: 1/8/2018





Appendices

Appendix A

Vapor Mitigation System in 4929 Salmon Street Residence

Client Name: Rohm and Haas Chemicals LLC	Site Location: 4929 Salmon Street	Project No. 60533397.17030	
Photo No. 1	Date: 01/05/2018		
Description: XP 201 Blower/Radon Fan. Replaced 2017			

Client Name: Rohm and Haas Chemicals LLC	Site Location: 4929 Salmon Street	Project No. 60533397.17030	
Photo No. 2	Date: 01/05/2018		
Description: Basement Southwest Corner Subslab Vent Line			

Client Name: Rohm and Haas Chemicals LLC		Site Location: 4929 Salmon Street	Project No. 60533397.17030
Photo No. 3	Date: 01/05/2018		
Description: Basement Northeast Corner Subslab Vent Line			

Client Name: Rohm and Haas Chemicals LLC		Site Location: 4929 Salmon Street	Project No. 60533397.17030
Photo No. 4	Date: 01/05/2018		
Description: Working Manometer for blower system.			



CITY OF PHILADELPHIA

PA 052195

LICENSES & INSPECTIONS
PERMIT SERVICES

APPLICANT NAME: Stephen T. DiTomo
CONTACT ID#: AC 607652
OR
CONTRACTOR ID#: 4060 Lic# 15993

VISIT: www.phila.gov/lci FOR L&I INFORMATION.

Me



INSTALLATION & OPERATING INSTRUCTION IN014 Rev M

XP/XR Series

XP151 p/n 23010-1
XP201 p/n 23011-1
XR261 p/n 23019-1

GP Series

GP201 p/n 23007-1
GP301 p/n 23006-1
GP401 p/n 23009-1
GP501 p/n 23005-1

1.0 SYSTEM DESIGN CONSIDERATIONS

1.1 INTRODUCTION

The GP/XP/XR Series Radon Fans are intended for use by trained, professional certified/licensed[®] after professional Radon mitigators. The purpose of this instruction is to provide additional guidance for the most effective use of a fan. This instruction should be considered as a supplement to EPA / radon industry standard practices, state and local building codes and state regulations. In the event of a conflict, those codes, practices and regulations take precedence over this instruction.

1.2 ENVIRONMENTALS

The GP/XP/XR Series Fans are designed to perform year-round in all but the harshest climates without additional concern for temperature or weather. For installations in an area of severe cold weather, please contact RadonAway for assistance. When not in operation, the fan should be stored in an area where the temperature is never less than 32° F. or more than 100 °F.

1.3 ACOUSTICS

The GP/XP/XR Series Fan, when installed properly, operates with little or no noticeable noise to the building occupants. The velocity of the outgoing air should be considered in the overall system design. In some cases the "rushing" sound of the outlet air may be disturbing. In these instances, the use of a RadonAway Exhaust Muffler is recommended.

1.4 GROUND WATER

In the event that a temporary high water table results in water at or above slab level, water may be drawn into the riser pipes thus blocking air flow to the GP/XP/XR Series Fan. The lack of cooling air may result in the fan cycling on and off as the internal temperature rises above the thermal cutoff and falls upon shutdown. Should this condition arise, it is recommended that the fan be turned off until the water recedes allowing for return to normal operation.

1.5 SLAB COVERAGE

The GP/XP/XR Series Fan can provide coverage up to 2000+ sq. ft. per slab penetration. This will primarily depend on the sub-slab material in any particular installation. In general, the tighter the material, the smaller the area covered per penetration. Appropriate selection of the GP/XP/XR Series Fan best suited for the sub-slab material can improve the slab coverage. The GP & XP Series have a wide range of models to choose from to cover a wide range of subslab material. The higher static suction fans are generally used for tighter subslab materials. The XR Series is specifically designed for high flow applications such as stone/gravel and drain tile. Additional suction points can be added as required. It is recommended that a small pit (5 to 10 gallons in size) be created below the slab at each suction hole.

1.6 CONDENSATION & DRAINAGE

Condensation is formed in the piping of a mitigation system when the air in the piping is chilled below its dew point. This can occur at points where the system piping goes through unheated space such as an attic, garage or outside. The system design must provide a means for water to drain back to a slab hole to remove the condensation. The GP/XP/XR Series Fan MUST be mounted vertically plumb and level, with the outlet pointing up for proper drainage through the fan. Avoid mounting the fan in any orientation that will allow water to accumulate inside the fan housing. The GP/XP/XR Series Fans are NOT suitable for underground burial.

For GP/XP/XR Series Fan piping, the following table provides the minimum recommended pipe diameter and pitch under several system conditions.

Pipe Dia.	Minimum Rise per Foot of Run*		
	@25 CFM	@50 CFM	@100 CFM
4"	1/8"	1/4"	3/8"
3"	1/4"	3/8"	1 1/2"



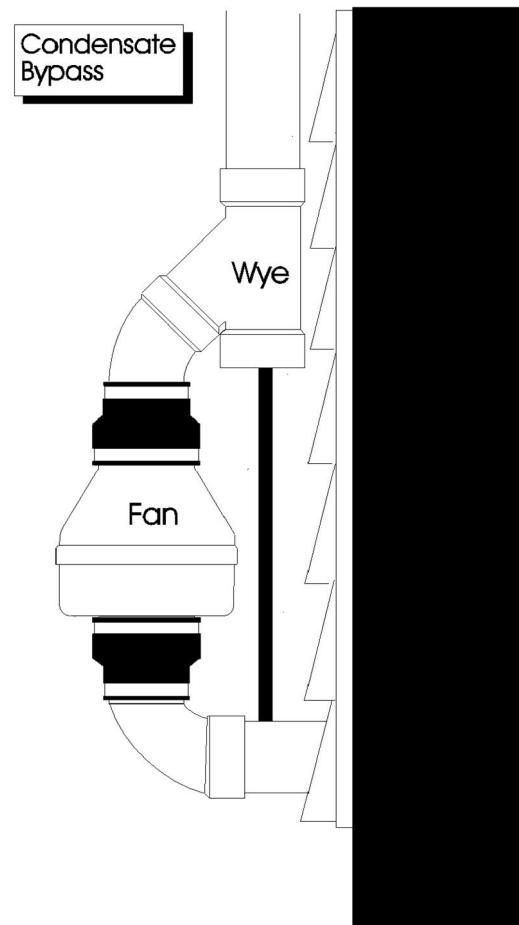
*Typical GP/XP/XR Series Fan operational flow rate is 25 - 90 CFM.
(For more precision, determine flow rate by using the chart in the addendum.)

Under some circumstances in an outdoor installation a condensate bypass should be installed in the outlet ducting as shown. This may be particularly true in cold climate installations which require long lengths of outlet ducting or where the outlet ducting is likely to produce large amounts of condensation because of high soil moisture or outlet duct material. Schedule 20 piping and other thin-walled plastic ducting and Aluminum downspout will normally produce much more condensation than Schedule 40 piping.

The bypass is constructed with a 45 degree Wye fitting at the bottom of the outlet stack. The bottom of the Wye is capped and fitted with a tube that connects to the inlet piping or other drain. The condensation produced in the outlet stack is collected in the Wye fitting and drained through the bypass tube. The bypass tubing may be insulated to prevent freezing.

1.7 SYSTEM MONITOR & LABEL

A System Monitor, such as a manometer (P/N 50017) or audible alarm (P/N 28001-2) is required to notify the occupants of a fan system malfunction. A System Label (provided with manometer P/N 50017) with instructions for contacting the installing contractor for service and also identifying the necessity for regular radon tests to be conducted by the building occupants, must be conspicuously placed where the occupants frequent and can see the label.



1.8 ELECTRICAL WIRING

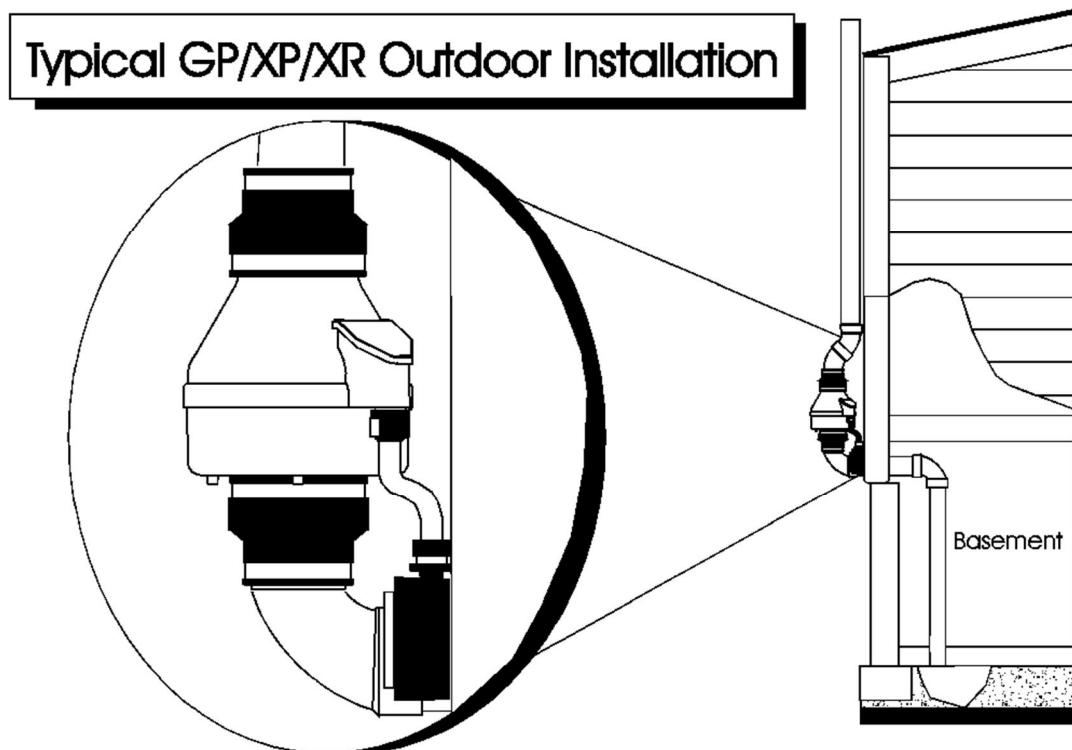
The GP/XP/XR Series Fans operate on standard 120V 60 Hz. AC. All wiring must be performed in accordance with the National Fire Protection Association's (NFPA) "National Electrical Code, Standard #70"-current edition for all commercial and industrial work, and state and local building codes. All wiring must be performed by a qualified and licensed electrician. Outdoor installations require the use of a U.L. listed watertight conduit. Ensure that all exterior electrical boxes are outdoor rated and properly sealed to prevent water penetration into the box. A means, such as a weep hole, is recommended to drain the box.

1.9 SPEED CONTROLS

The GP/XP/XR Series Fans are rated for use with electronic speed controls however, they are generally not recommended. If used, the speed control recommended is Pass & Seymour Solid State Speed Control Cat. No. 94601-I.

2.0 INSTALLATION

The GP/XP/XR Series Fan can be mounted indoors or outdoors. (It is suggested that EPA recommendations be followed in choosing the fan location.) The GP/XP/XR Series Fan may be mounted directly on the system piping or fastened to a supporting structure by means of optional mounting bracket.



2.1 MOUNTING

Mount the GP/XP/XR Series Fan vertically with outlet up. Insure the unit is plumb and level. When mounting directly on the system piping assure that the fan does not contact any building surface to avoid vibration noise.

2.2 MOUNTING BRACKET (optional)

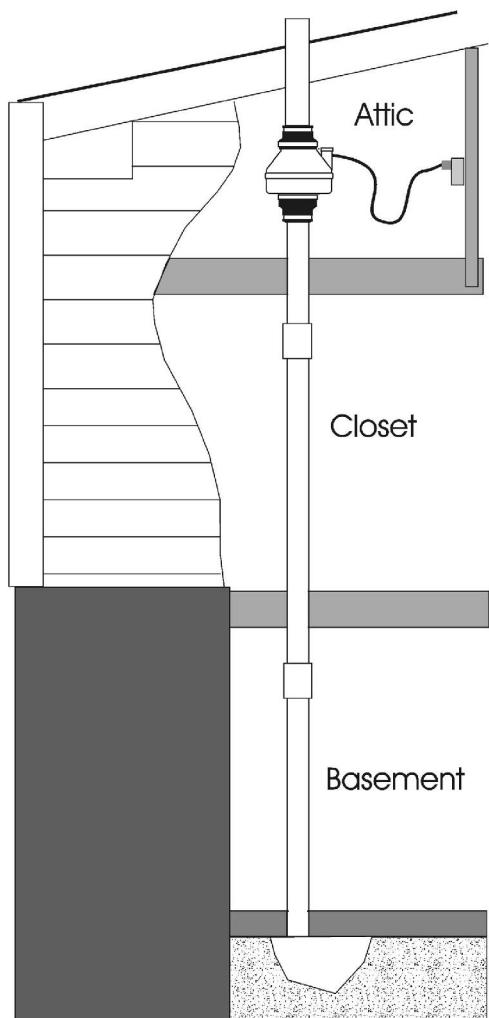
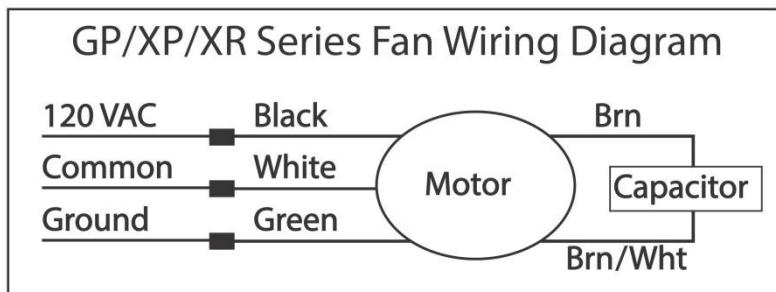
The GP/XP/XR Series Fan may be optionally secured with the integral mounting bracket on the GP Series Fan or with RadonAway P/N 25007 mounting bracket for an XP/XR Series Fan. Foam or rubber grommets may also be used between the bracket and mounting surface for vibration isolation.

2.3 SYSTEM PIPING

Complete piping run, using flexible couplings as means of disconnect for servicing the unit and vibration isolation.

2.4 ELECTRICAL CONNECTION

Connect wiring with wire nuts provided, observing proper connections (See Section 1.8):



2.5 VENT MUFFLER (optional)

Install the muffler assembly in the selected location in the outlet ducting. Solvent weld all connections. The muffler is normally installed at the end of the vent pipe.

2.6 OPERATION CHECKS & ANNUAL SYSTEM MAINTENANCE

- _____ Verify all connections are tight and leak-free.
- _____ Insure the GP/XP/XR Series Fan and all ducting is secure and vibration-free.
- _____ Verify system vacuum pressure with manometer. Insure vacuum pressure is within normal operating range and less than the maximum recommended operating pressure.
(Based on sea-level operation, at higher altitudes reduce by about 4% per 1000 Feet.)
(Further reduce Maximum Operating Pressure by 10% for High Temperature environments)
See Product Specifications. If this is exceeded, increase the number of suction points.
- _____ Verify Radon levels by testing to EPA protocol.

XP/XR SERIES PRODUCT SPECIFICATIONS

The following chart shows fan performance for the XP & XR Series Fan:

	Typical CFM Vs Static Suction "WC								
	0"	.25"	.5"	.75"	1.0"	1.25"	1.5"	1.75"	2.0"
XP151	180	162	140	117	78	46	10	-	-
XP201	150	130	110	93	74	57	38	20	-
XR261	250	215	185	150	115	80	50	20	-

Maximum Recommended Operating Pressure*		
XP151	1.3" W.C.	(Sea Level Operation)**
XP201	1.7" W.C.	(Sea Level Operation)**
XR261	1.6" W.C.	(Sea Level Operation)**

*Reduce by 10% for High Temperature Operation

**Reduce by 4% per 1000 feet of altitude

Power Consumption @ 120 VAC	
XP151	45 - 60 watts
XP201	45 - 66 watts
XR261	65 - 105 watts

XP Series Inlet/Outlet: 4.5" OD (4.0" PVC Sched 40 size compatible)

XR Series Inlet/Outlet: 5.875" OD

Mounting: Mount on the duct pipe or with optional mounting bracket.

Recommended ducting: 3" or 4" Schedule 20/40 PVC Pipe

Storage temperature range: 32 - 100 degrees F.

Normal operating temperature range: -20 - 120 degrees F.

Maximum inlet air temperature: 80 degrees F.

Size: 9.5H" x 8.5" Dia.

Weight: 6 lbs. (XR261 - 7 lbs)

Continuous Duty

Thermally Protected

Class B Insulation

3000 RPM

Residential Use Only

Rated for Indoor or Outdoor Use

LISTED
Electric Fan



Conforms to
UL STD. 507
Certified to
CAN/CSA STD.
C22.2 No.113

GP SERIES PRODUCT SPECIFICATIONS

The following chart shows fan performance for the GP Series Fan:

	Typical CFM Vs Static Suction "WC						
	1.0"	1.5"	2.0"	2.5"	3.0"	3.5"	4.0"
GP501	95	87	80	70	57	30	5
GP401	93	82	60	38	12	-	-
GP301	92	77	45	10	-	-	-
GP201	82	58	5	-	-	-	-

Maximum Recommended Operating Pressure*		
GP501	3.8" W.C.	(Sea Level Operation)**
GP401	3.0" W.C.	(Sea Level Operation)**
GP301	2.4" W.C.	(Sea Level Operation)**
GP201	1.8" W.C.	(Sea Level Operation)**

*Reduce by 10% for High Temperature Operation

**Reduce by 4% per 1000 feet of altitude

Power Consumption @ 120 VAC	
GP501	70 - 140 watts
GP401	60 - 110 watts
GP301	55 - 90 watts
GP201	40 - 60 watts

Inlet/Outlet: 3.5" OD (3.0" PVC Sched 40 size compatible)

Mounting: Fan may be mounted on the duct pipe or with integral flanges.

Weight: 12 lbs.

Size: 13H" x 12.5" x 12.5"

Recommended ducting: 3" or 4" Schedule 20/40 PVC Pipe

Storage temperature range: 32 - 100 degrees F.

Normal operating temperature range: -20 - 120 degrees F.

Maximum inlet air temperature: 80 degrees F.

Continuous Duty

Class B Insulation

3000 RPM

Thermally Protected

Rated for Indoor or Outdoor Use

LISTED
Electric Fan



Conforms to
UL STD. 507
Certified to
CAN/CSA STD.
C22.2 No.113

IMPORTANT INSTRUCTIONS TO INSTALLER

Inspect the GP/XP/XR/RP/SF Series Fan for shipping damage within 15 days of receipt. Notify RadonAway® of any damages immediately. RadonAway® is not responsible for damages incurred during shipping. However, for your benefit, RadonAway® does insure shipments.

There are no user serviceable parts inside the fan. Do not attempt to open. Return unit to factory for service.

Install the GP/XP/XR/RP/SF Series Fan in accordance with all EPA standard practices, and state and local building codes and state regulations.

Provide a copy of this instruction or comparable radon system and testing information to the building occupants after completing system installation.

WARRANTY

RadonAway® warrants that the GPX01/XP/XR/RP/SF Series Fan (the "Fan") will be free from defects in materials and workmanship for a period of 90 days from the date of purchase (the "Warranty Term").

RadonAway® will replace any Fan which fails due to defects in materials or workmanship during the Warranty Term. The Fan must be returned (at Owner's cost) to the RadonAway® factory. Any Fan returned to the factory will be discarded unless the Owner provides specific instructions along with the Fan when it is returned regardless of whether or not the Fan is actually replaced under this warranty. Proof of purchase must be supplied upon request for service under this Warranty.

This Warranty is contingent on installation of the Fan in accordance with the instructions provided. This Warranty does not apply where any repairs or alterations have been made or attempted by others, or if the unit has been abused or misused. Warranty does not cover damage in shipment unless the damage is due to the negligence of RadonAway®.

5 YEAR EXTENDED WARRANTY WITH PROFESSIONAL INSTALLATION.

RadonAway® will extend the Warranty Term of the fan to five (5) years from date of purchase or sixty-three (63) months from the date of manufacture, whichever is sooner, if the Fan is installed in a professionally designed and professionally installed active soil depressurization system or installed as a replacement fan in a professionally designed and professionally installed active soil depressurization system by a qualified installer. Proof of purchase and/or proof of professional installation may be required for service under this warranty. Outside the Continental United States and Canada the extended Warranty Term is limited to one (1) year from the date of manufacture.

RadonAway® is not responsible for installation, removal or delivery costs associated with this Warranty.

LIMITATION OF WARRANTY

EXCEPT AS STATED ABOVE, THE GPX01/XP/XR/RP SERIES FANS ARE PROVIDED WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

IN NO EVENT SHALL RADONAWAY BE LIABLE FOR ANY DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES ARISING OUT OF, OR RELATING TO, THE FAN OR THE PERFORMANCE THEREOF. RADONAWAY'S AGGREGATE LIABILITY HEREUNDER SHALL NOT IN ANY EVENT EXCEED THE AMOUNT OF THE PURCHASE PRICE OF SAID PRODUCT. THE SOLE AND EXCLUSIVE REMEDY UNDER THIS WARRANTY SHALL BE THE REPAIR OR REPLACEMENT OF THE PRODUCT, TO THE EXTENT THE SAME DOES NOT MEET WITH RADONAWAY'S WARRANTY AS PROVIDED ABOVE.

For service under this Warranty, contact RadonAway for a Return Material Authorization (RMA) number and shipping information. No returns can be accepted without an RMA. If factory return is required, the customer assumes all shipping costs, including insurance, to and from factory.

RadonAway® 3 Saber Way
Ward Hill, MA 01835 USA TEL (978) 521-3703
FAX (978) 521-3964
Email to: Returns@RadonAway.com

Record the following information for your records:

Serial No. _____

Purchase Date. _____

Appendix B

CD Containing Electronic Files